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IBRARY

DOMESTIC ENGINEERING

*Plumbing & Heating Contracting and Merchandising*

# GAS COMPANIES CHANGE POLICY

## *Publish Principles Which Assure Profit from Gas Appliance Sales to Plumbing and Heating Dealers*

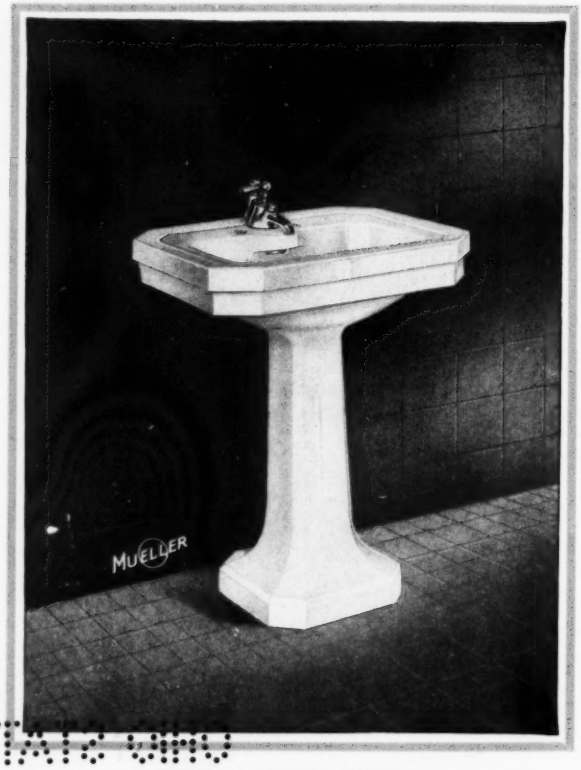
"The plumbing and heating dealer can again take up the sale of gas appliances at a profit. An armistice has been declared in the long fight with the utility companies, a peace treaty has been drawn up and the plumbing and heating contractor . . . . . " (See page 32)

JULY 11, 1931

TD 1 *
D66
v.136



# The "Glencoe" mixes, fills and drains through the center!




An unusually pleasing design is the MUELLER "Glencoe" Lavatory.

By placing a mixing valve, spout and pop-up drain in the center slab, unusual beauty is achieved. Instead of three or four fittings, the "Glencoe" consists of one in central position exposed to view, leaving an unobstructed top with a very pleasing, orderly effect. Besides the distinct advantage of appearance, the "Glencoe" is a true economy—the mixing valve aiding greatly in the conservation of hot water—a feature most desirable not only in hotels but in homes as well.

For further information on the "Glencoe" and companion bathroom fixtures, simply drop us a line telling us your requirements.

MUELLER CO. (Established 1857) ***Factory:*** Decatur, Illinois. ***Branches:*** New York, Dallas, Atlanta, Los Angeles, San Francisco, Chicago. ***Canadian Factory:*** MUELLER, Limited, Sarnia.

## THE "GLENCOE"

Patented. MUELLER "Glencoe" vitreous china Colonial pattern lavatory with splash rim; rear outlet square bowl; chromium plate wall brackets; vitreous china Colonial pattern pedestal.

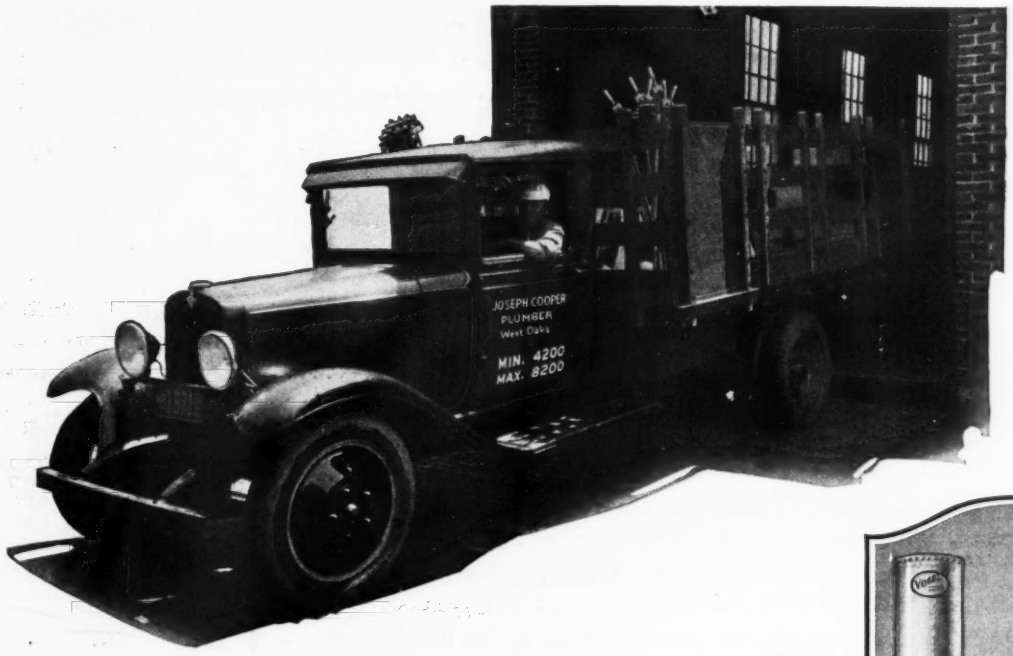
All metal lavatory combination with mixing valve, pop-up drain with metal knob; flow velocity regulator, all integral. All operating parts through the center of the lavatory.

This fitting sold only complete with lavatory.

Finish: Chromium plate only.

# MUELLER

Trade-mark Reg. U. S. Pat. Office

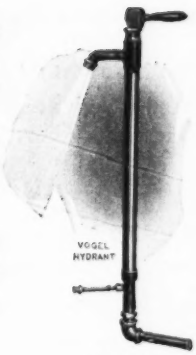



# "I'VE CERTAINLY MADE A LOT OF EXTRA MONEY THIS YEAR PUTTING IN **VOGEL** FROST-PROOFS . . . BOTH CLOSETS AND HYDRANTS"

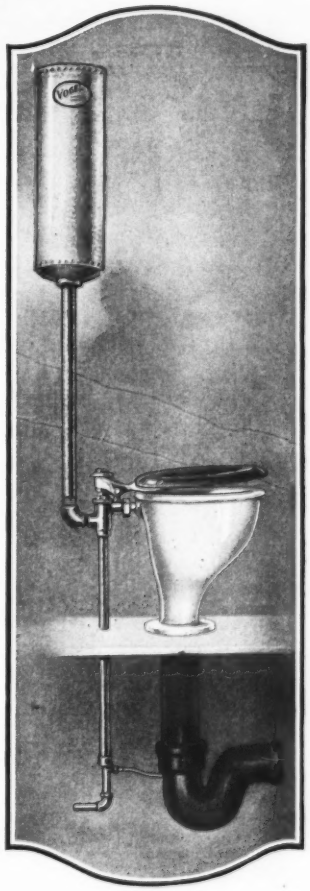
"WHENEVER I look over my list of customers it seems as if I can always find somebody who intends to install a Vogel Frost-Proof, and when I suggest doing it now I get the job.

"I drop in at service stations and talk with the manager and nearly always find that he is willing to have a closet or hydrant installed.

"And of course, when I tell them about the kind of service they get from Vogel Frost-Proof Closets and Hydrants I am told to go ahead and put them in."




VOGEL
*Frost-Proof*
*Hydrant*



NUMBER ONE VOGEL
FROST-PROOF CLOSET
*Simple in operation . . . Sturdy in construction . . . Half a million in operation.*

See inside back page for VOGEL advertisement on No. 10 and 10-A Closet Combinations

*This is a good tip to plumbers who are looking for extra profits.*

*We'll help you land these jobs, with literature imprinted with your name and address.*

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

VOGEL PATENTED *Frost-Proof* PRODUCTS

392600

# DOMESTIC ENGINEERING

*Plumbing & Heating Contracting and Merchandising*

Established 1889

Vol. 136, No. 1 | July 11, 1931 | Whole No. 1947

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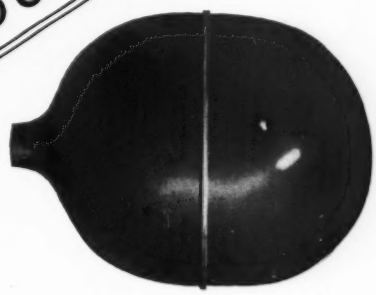
# STOKES HARD RUBBER FLOATS

THEY WILL STAND ANY ENDURANCE TEST—



Look for the

Mark of Quality

TIME or the ELEMENTS do not affect them; they are impervious to chemicals. STOKES Hard Rubber Floats are without flaws, because each one passes under the observation of our staff of experts before it is shipped. STOKES Flawless Hard Rubber will not break under ordinary conditions, and it may be *guaranteed for the life of the tank*. Floats made from such material must give the highest type of service. We ask you to check up on this, for we have been

MOULDERS SINCE 1897

*Write to*

Jos. Stokes RUBBER CO.

Trenton N.J.

Canadian Plant: Welland, Ont.

HARD RUBBER IN EVERY CONCEIVABLE FORM — MOULDERS OF PLASTICS

# Between Ourselves

*UNQUESTIONABLY the most important development, so far as the individual master plumber is concerned, which came out of the National convention in Milwaukee, was the presentation of a new policy on the part of gas companies.*

*Your Editor*

THE six principles which a representative of the American Gas Association read at Milwaukee represent a radical change in policy in favor of the master plumber. A proper mark-up, no premiums or trade-in allowances, help in advertising, and a reasonable time payment plan, are the concessions made by the members of an association representing the large majority of the gas companies. These principles, coupled with a willingness to act where there is difficulty locally, give the contractor once more a chance to sell gas appliances at a profit.

---

**IN its next issue DOMESTIC ENGINEERING will announce its window poster featuring heating. Watch for it!**

---

BECAUSE of the rapid spread of pipe lines carrying natural gas into new territories, the article in the "Automatic Heat" section by Samuel Insull, Jr., is of direct interest to sellers of all types of automatic heat. You will want to learn just what, in Mr. Insull's opinion, the bringing of natural gas to the big Chicago market means to the gas supplier and to the seller of gas appliances. Mr. Insull tells frankly some of the problems met in introducing gas as a fuel and for what markets it is not adapted. You will also want to read the other articles in this section dealing with oil burners and automatic stokers.

---

WHEN a contractor receives a shipment of fixtures, he becomes responsible for their protection and handling until they are accepted by the owner. His responsibility goes even farther than this. It is his duty to instruct the owner so as to insure their protection and good handling throughout their period of service to the owner. Information has been compiled and developed with these two thoughts in mind in an article in this issue, entitled, "The Care and Protection of Plumbing Fixture Finishes." This is an unusual type of article and you will find it well worth reading.

*"HAVE read your paper for years. Best thing of its kind I have seen." — W. J. Kain, Milbrook, N. Y.*

---

**IN an article in this issue, entitled "Originality in Piping Scheme," an unusual method of piping for a combination of forced circulation and gravity circulation, having reversed returns, is described. The author is F. E. Giesecke, and the installation is in a college dormitory, which is located nearly 2,000 ft. from the power house. The installation is such that the water cools only about two degrees in flowing from the power house to the dormitory. A novel system is used to regulate the temperature of the water.**

---

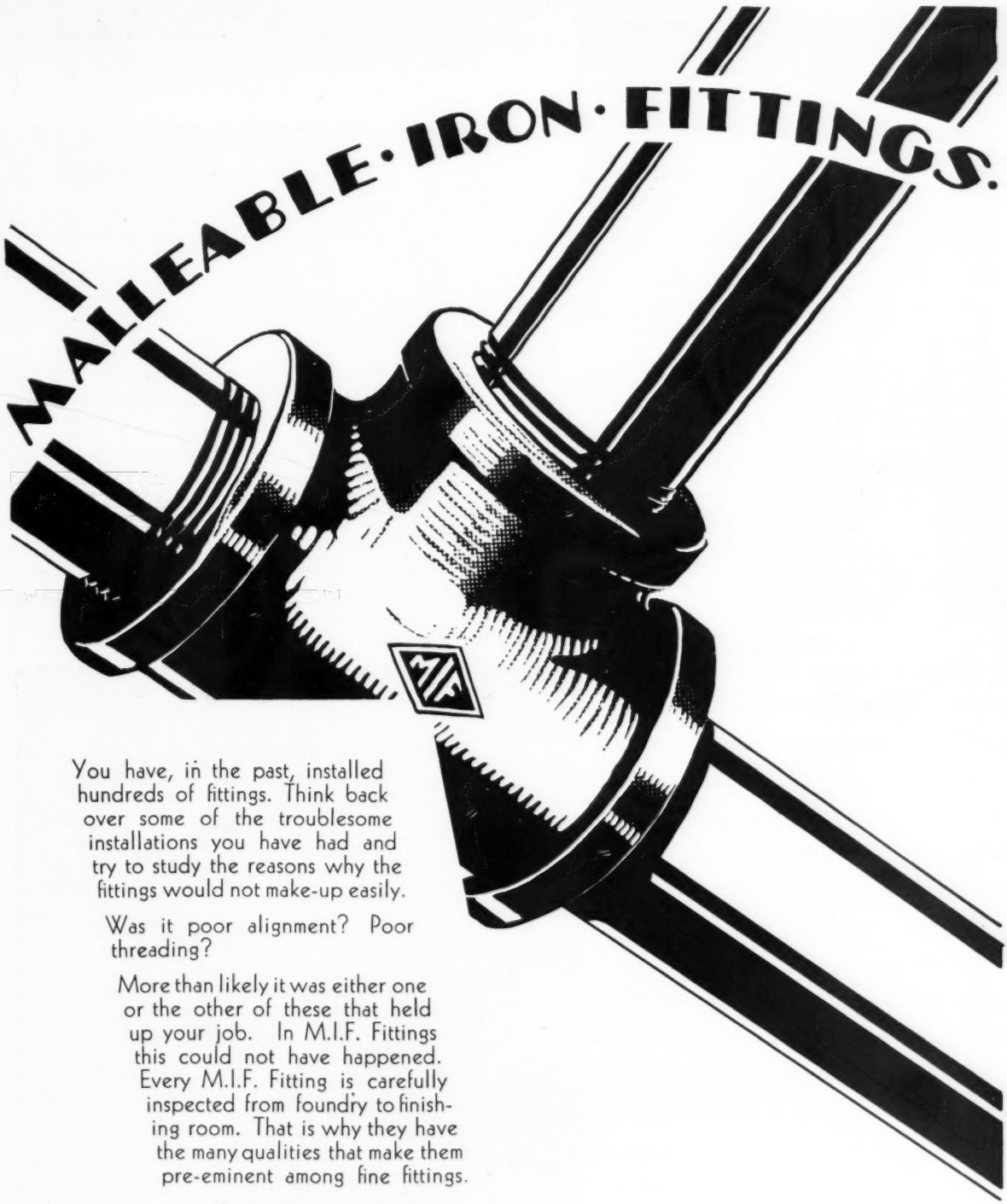
"TIME Payments Sell Remodeling," is the general title of the material in the "Plumbing and Heating Merchandising" section in this issue. It is the story of the very complete selling plans of a successful contracting firm. This company uses canvassers, salesmen, newspaper advertising, sales letters and has worked up a good file of prospects. It employes a checking system that tells where inquiries come from.

---

**IT is said that a woman usually gets what she wants, and Helene E. Gaines proves that this is true in an article in the next issue, called "Personalized Collection Methods." She says: "I was determined to go after all of the dragging accounts in every imaginable way until I cleared our books of all backward accounts." She had many interesting experiences, but in the end always received payment. This is the fourth of the series of articles on the subject of collections, and it is a splendid example of what can be accomplished by going right after those past due accounts.**

*The man who is so busy that he does not have time to read his trade paper is like the man who was so busy chopping wood that he did not have time to sharpen his axe.*

# MALLEABLE·IRON·FITTINGS.




You have, in the past, installed hundreds of fittings. Think back over some of the troublesome installations you have had and try to study the reasons why the fittings would not make-up easily.

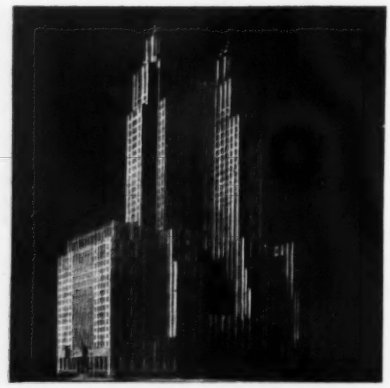
Was it poor alignment? Poor threading?

More than likely it was either one or the other of these that held up your job. In M.I.F. Fittings this could not have happened. Every M.I.F. Fitting is carefully inspected from foundry to finishing room. That is why they have the many qualities that make them pre-eminent among fine fittings.

*Order thru your jobber*

M|F

**MALLEABLE IRON FITTINGS COMPANY, BRANFORD, CONN.**



Waldorf-Astoria Hotel, New York. Solid Nickel Silver plumbing fixtures by Standard Sanitary Mfg. Company, Pittsburgh, and Sloan Valve Company, Chicago. Architects: Schultze and Weaver, New York. Plumbing Contractor: John McMillan Company, Inc., New York.

# *Long-wearing* SOLID NICKEL SILVER *plumbing fixtures for new Waldorf-Astoria*

● Where it is highly important that sanitary fixtures retain lifetime attractiveness under severe corrosive conditions, many modern buildings are being equipped with Solid Nickel Silver plumbing fixtures. Since it is a high Nickel alloy, Solid Nickel Silver resists the corrosive action of gases and acids. A solid uncoated white metal all through, no unsightly spots will appear and mar the beauty of fixtures. In addition, lustrous, easy-to-clean Nickel Silver is bronze-like in hardness and strength. It gives exceptional wear-resistance to valve seats. For modern plumbing fixtures that look...and wear... better longer, specify Solid Nickel Silver.

SOLID **Nickel** SILVER

**THE INTERNATIONAL NICKEL COMPANY, INC.**

Miners, refiners and rollers of Nickel . . . Sole producers of Monel Metal

**67 WALL STREET NEW YORK, N. Y.**

THE NICKEL

# *Announcement*

# U. S. HAME COMPANY PRESENTS TO AMERICAN INDUSTRY THE NEW IMPROVED LAWSON WRENCH

Here is a line of wrenches that Industry needs—and will buy. Does anything that any wrench ever did and a hundred things more. Goes into tough places—grabs, holds and stays.

One look will sell any plumber, steam-fitter, garageman or mechanic. A self-demonstrating piece of merchandise.

USHCO Lawson is built to last a century—dressed as the modern merchandise should be dressed—goes out in the right color and container—and is accompanied by a brilliant counter sales display.

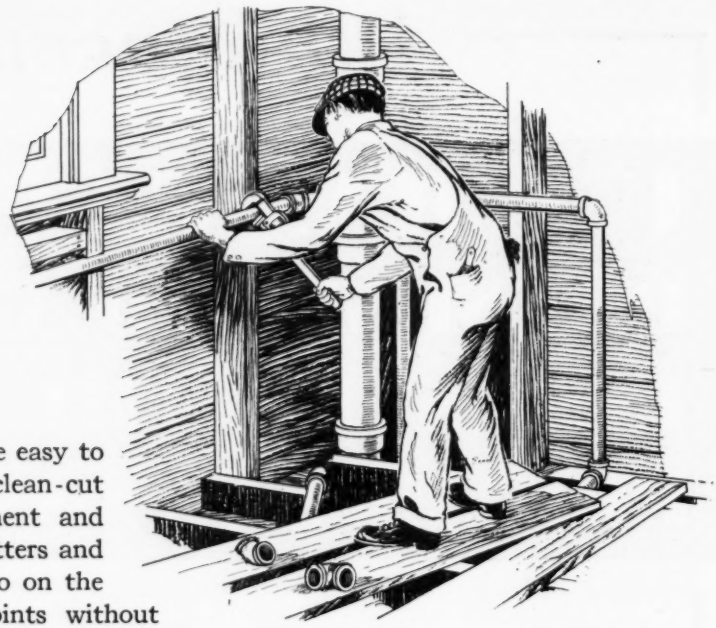
Five simple parts make it. Drop forged from special alloy steel guarantees it. Aggressive advertising will move it. Nationally known manufacturer makes it and backs it. Seven exclusive features and patented principle will sell it.

Details and specifications of the USHCO Lawson line of wrenches are extremely interesting. You will find it well worth-while to write for them today.

## U. S. HAME COMPANY

**137 Tonawanda St. Buffalo, New York**

# Easy to install



KENNEDY Pipe Fittings are easy to install because of their clean-cut sharp threads, accurate alignment and generous chamfer. Your pipe fitters and machinists will find that they go on the pipe easily, make leakproof joints without loss of time, stay tight and give lastingly good service.

You can figure your jobs as closely as necessary when you use Kennedy Fittings because you can safely omit extra time allowances for split fittings, leaky threads, or replacements.

Kennedy black and galvanized malleable iron fittings and bronze or brass screwed fittings cover practically every requirement in the plumbing and heating field. The equally complete Kennedy lines of bronze and iron-body gate, globe, angle and check valves provide an additional advantage of standardizing on Kennedy Products.

Write for the Kennedy catalogue describing and listing all these products and be sure to order Kennedys for your next job.

**Kennedy Products Include**

**Valves**

Gate, Globe, Angle, Check, in bronze, iron body, all iron for a wide range of pressures; also Radiator Valves and Special Valves.

**Pipe Fittings**

Malleable Iron Screwed, Brass or Bronze Screwed, Cast Iron Flanged Fittings and Flanges.

**Fire Hydrants**

Sprinkler Valves, etc., for fire protection.

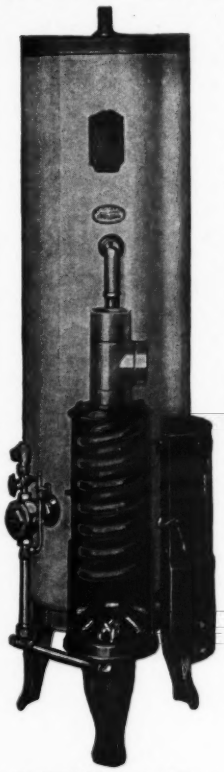
## The Kennedy Valve Mfg. Co., Elmira, N. Y.

WAREHOUSES: New York, 128-132 White St.; San Francisco, 448-450 Tenth St.; Chicago, 1335-1337 South Clinton St.

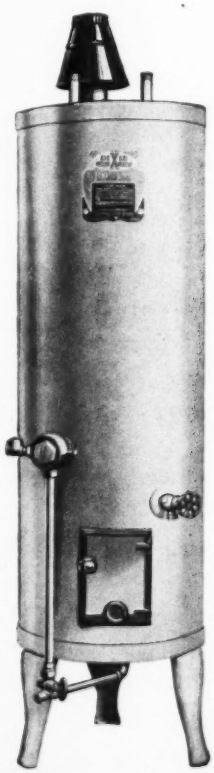
SALES OFFICES: New York, Philadelphia, Cleveland, Chicago, Salt Lake City, Atlanta, El Paso, Los Angeles, San Francisco, Seattle

# KENNEDY

## VALVES-PIPE FITTINGS-FIRE HYDRANTS



No. 20SA Hotstream Automatic Storage Heater, Side Arm Type, List Price $66.00 Complete



Dixie Automatic Storage Heater, "Internal Type." Made in three sizes, 20, 30 and 40 gallons. List Prices: $55.00, $70.00 and $85.00

# A Profit on Each Sale
## *and*
# Dividends on Installations

Hotstream Automatic Storage Heaters always have been good profit earners. Plumbers have found by experience that they can make more money by selling them.

*More money,* because they can make *more* sales. A fact possible because Hotstream Automatic Storage Heaters are priced within the reach of all —which means a possible sale in every home.

And furthermore, because of Hotstream's remarkable performance and thoroughly satisfactory service — every owner quickly becomes a booster and a self-appointed salesman. Installations help develop more sales—which are really dividends—and the more installations, the greater possibility of *volume* dividends.

*Write today for full details of the Hotstream proposition*

**HOTSTREAM**
**AUTOMATIC STORAGE**
**HEATERS**

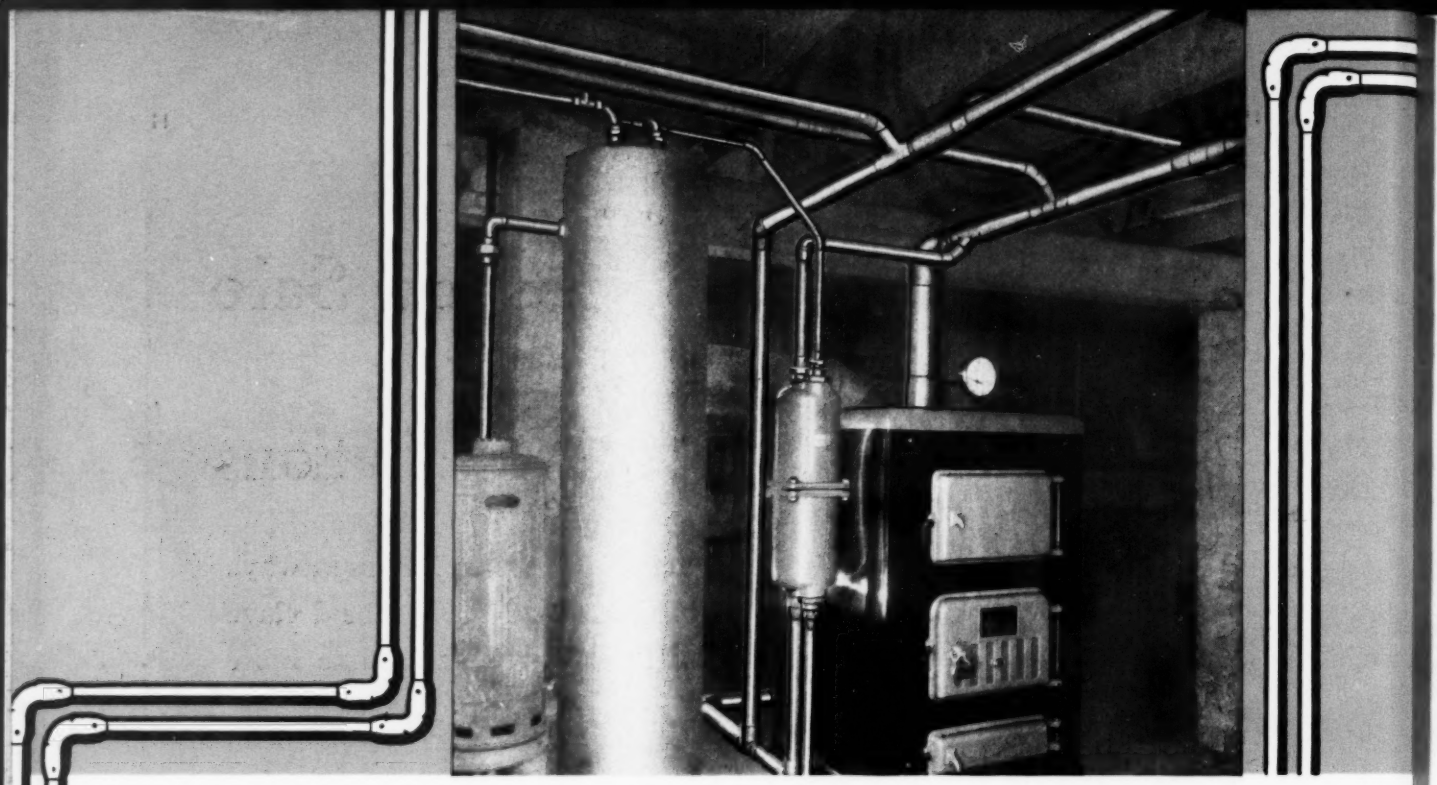
## THE HOTSTREAM HEATER CO.

*"Makers of Heaters that Heat"*

CLEVELAND OHIO

*Manufacturers of a Complete Line of Automatic Storage Heaters, Tank Heaters, Indirect, Gasoline and Kerosene Water Heaters*

Represented in Canada by W. H. Cunningham & Hill, Ltd., Toronto



# *Tight the first time*

A Mueller patented joint need only be made once. When Mueller STREAMLINE hard copper pipe and fittings are installed, the expensive work of going back and tightening up leaky joints is done away with.

Furthermore, any plumber can tell by looking at a joint whether it is tight or not.

An unbroken solder line on a connection between Mueller STREAMLINE copper pipe and Mueller STREAMLINE fittings is all the evidence you need that the joint is absolutely leakproof. A hydrostatic test will prove this to you, but that is a mere formality.

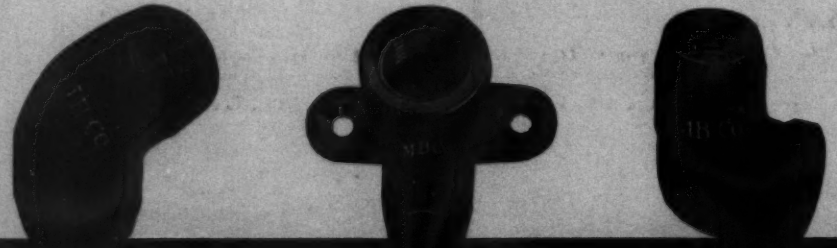
Wrenches, cutters and threading dies are no longer needed. The three tools necessary for a Mueller installation are a blow torch, sand paper or sand cloth and hack saw. Mueller solder wire and Mueller non-corrosive paste complete the workman's kit.

The result is a joint—tight the first time—and fully worthy of the high traditions of the plumbing trade.

If you are not thoroughly familiar with this patented joint, consult your jobber or write for our catalog.

Mueller STREAMLINE fittings are furnished in full range and in sizes of ¼" to 8" inclusive.

Canadian Office: Mueller Brass Co., of Canada Limited, Toronto, Ontario



Mueller
BRASS CO. OF PORT HURON
MICHIGAN

# KELLY VALVES

*are*

# COMPLETELY AUTOMATIC AND NON-ADJUSTABLE

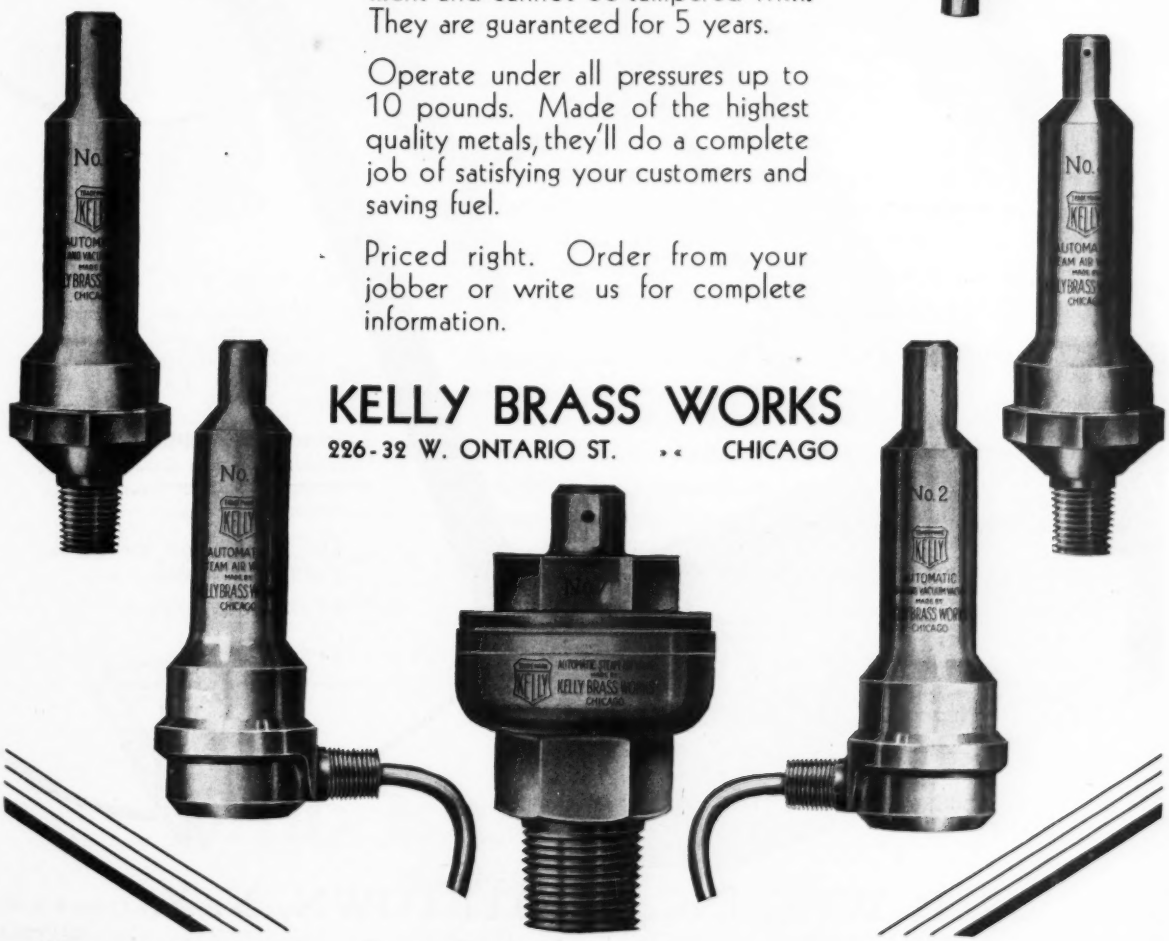
**Can't be beat for conserving heat**

The complete line of seven KELLY valves will fill every air valve requirement for a gravity one-pipe atmospheric or vacuum type heating system.

All KELLY Valves are so constructed that they need no adjustment and cannot be tampered with. They are guaranteed for 5 years.

Operate under all pressures up to 10 pounds. Made of the highest quality metals, they'll do a complete job of satisfying your customers and saving fuel.

Priced right. Order from your jobber or write us for complete information.




## KELLY BRASS WORKS

226-32 W. ONTARIO ST. ·· CHICAGO

# WISECO

## COMBINATION LAVATORY and WASTE FIXTURES

*The Standard Of Quality Since 1877*

If you want your customers to get the most for their money — sell the WISECO Combination Lavatory and Waste Fixture.

Furnished in either China or All Brass Trim. Long or short spout. Nickle Polished or Chromium Finish.

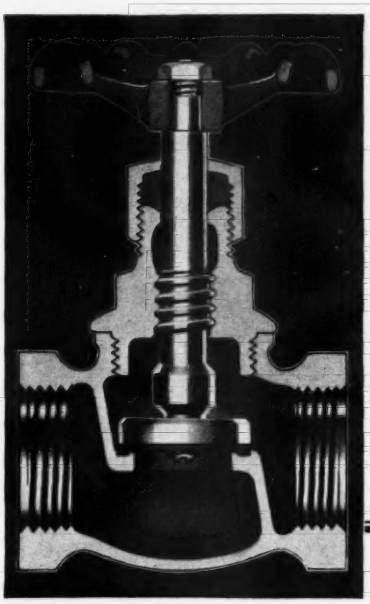
This fixture will meet your every requirement.

At all leading jobbers.

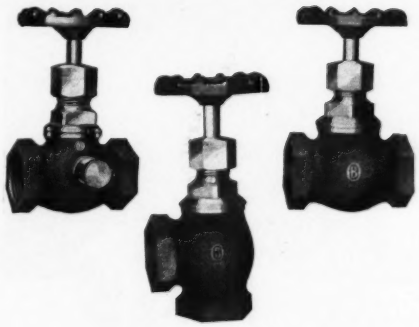
WISECO TRADE MARK INC.

**J. B. WISE, INC., WATERTOWN, N. Y.**

NEW YORK • PHILADELPHIA • ATLANTA • CHICAGO • LOS ANGELES • SEATTLE



# A DOLLAR SAVED
## *Equals*
# SIXTEEN EARNED



### O-B NO. 3 LINE

*The **improved** Stop and Waste Valve for plumbers' use on low pressure lines. The discs of these valves are of the swivel type and do not turn against the seat. Thus, the composition disc seats at a different point each time and wear from cutting is eliminated. The drain on the waste valve is located in the center of the body instead of near the hexes and this position removes much of the danger of stoppage by pipe dope, pipe ends and from pipe corrosion. Available in ¼", ½", ¾", and 1-inch sizes.*

PLUMBERS and heating contractors who appreciate the true importance of reduced costs do not undervalue the advantages of materials which permit savings even of only a few cents. To them, a dollar saved in installation costs has the same significance as sixteen dollars worth of new business. For it requires sixteen dollars in orders to net a dollar profit on a six per cent basis.

When a plumber becomes cost conscious he discovers innumerable operations which permit the saving of a few cents. By providing material which enables the journeymen to save five or ten minutes on each unit installation, costs rapidly diminish and the total savings quickly mount.

One profitable example of this is in the use of Ohio Brass Valves. Here the material is so accurately constructed to save time and effort that it is frequently possible to save as much as fifteen minutes on one valve installation. Even as little as five minutes saved per valve would total several dollars during the year. And this total, when multiplied by sixteen, indicates the amount of new business necessary to balance it.

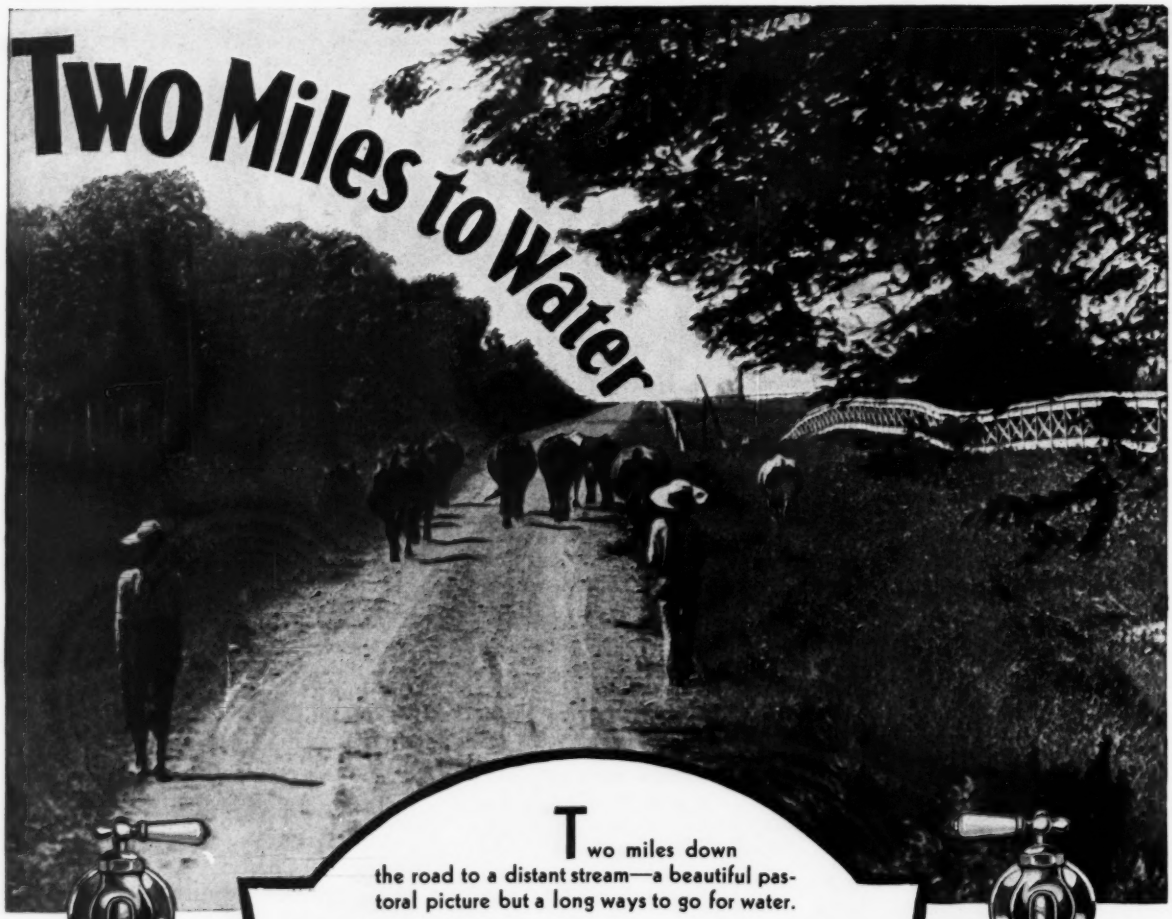
Use Ohio Brass Valves with the idea of lowering installation costs. And notice, incidentally, that their performance is unexcelled by any other valve.

1430V

## OHIO BRASS COMPANY

**Mansfield, Ohio, U. S. A.**

**New York City · Philadelphia, Pa. · Chicago, Ill. Wm. P. Horn Co: Los Angeles · San Francisco · Seattle**




Two miles down the road to a distant stream—a beautiful pastoral picture but a long ways to go for water.

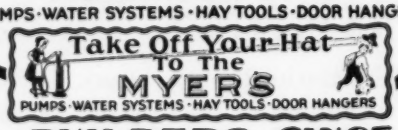
Don't miss the importance of the story this picture tells. Don't underestimate the possibilities it uncovers for pump and water system business.

The thousands who suffered through water shortage during the recent drought are the thousands who are now thinking in terms of improved and larger capacity pumping equipment.

A short story but directly to the point. It reveals remarkable opportunities for every Myers dealer to increase his pump and water system business during the months to come.

There is nothing we can add to the picture to make it more impressive with the exception that if you have not as yet joined the National Myers Water System Sales Campaign that you write or wire us immediately for complete information.

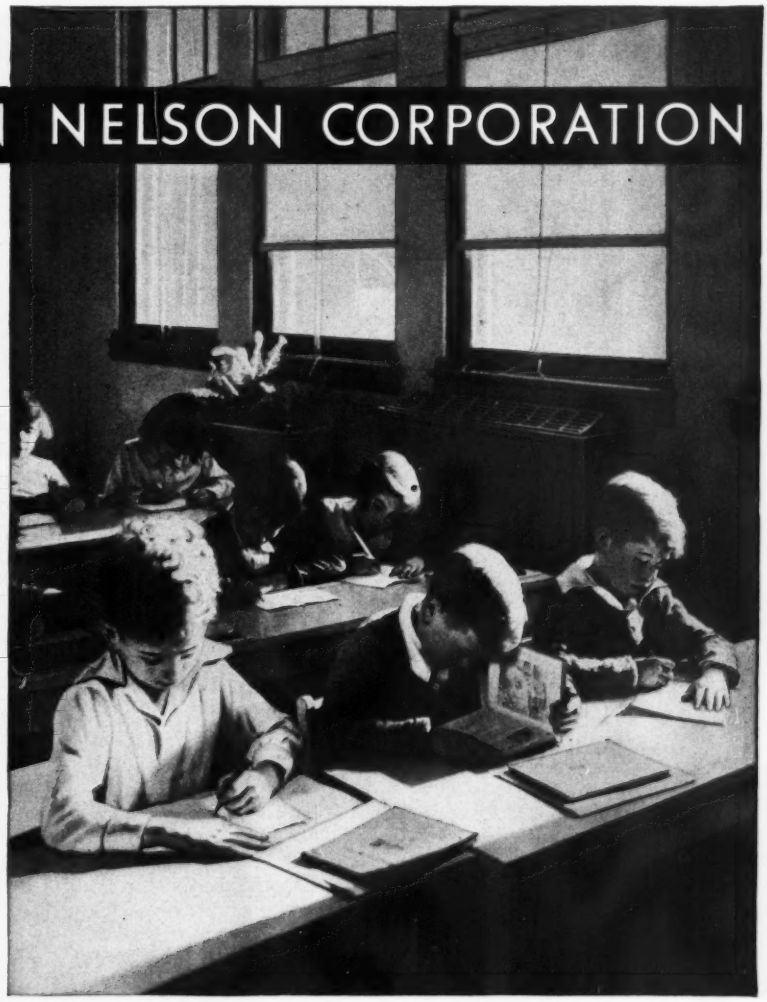
THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO.
PUMPS · WATER SYSTEMS · HAY TOOLS · DOOR HANGERS




PUMP BUILDERS SINCE 1870

© 1931
T. H. N. Corp.

# THE HERMAN NELSON CORPORATION



Univent Ventilation solved the ventilation problem by simplifying it. In operation it is as simple as opening a window, but control is much more positive.

As each Univent is individually operated, one room may be ventilated independently of other rooms. The obvious advantages and economy of unit control pioneered by the Univent, soon established the popularity of Unit Ventilation, and many unit ventilators came on the market.

But due to inherent fundamentals of design and patented features only the Univent can give Univent Ventilation.

Where a continuous supply of outdoor air to each pupil is a ventilation requirement, the Univent gives the proper atmospheric condition in the most effective and economical manner.

Ten years of Univent Ventilation in schools throughout the country have demonstrated to architects, engineers and school authorities, the performance that has established its leadership.

Write for the book, "Univent Ventilation."

## HERMAN NELSON

## UNIVENT

(TRADE MARK)

## VENTILATION

The Herman Nelson Corporation are makers of the *Univent System of Ventilation*, the *Her-Nel-Co System of Ventilation*, the *Herman Nelson Invisible Radiator*, the *Herman Nelson hi Jet Heater*, and other heating and ventilating equipment.

## A HERMAN NELSON PRODUCT

Factory at Moline, Illinois · *Sales and Service Offices in all Principal Cities*

| | | | | | |
|---|---|---|---|---|---|
| BELFAST, ME. | SCRANTON | GRAND RAPIDS | DES MOINES | MIAMI | SAN FRANCISCO |
| BOSTON | KINGSTON, PA. | SAGINAW, MICH. | MILWAUKEE | DALLAS | LOS ANGELES |
| SPRINGFIELD, MASS. | HARRISBURG | DETROIT | APPLETON, WIS. | OMAHA | VANCOUVER, B. C. |
| PROVIDENCE, R. I. | PITTSBURGH | CLEVELAND | MINNEAPOLIS | EMPORIA, KAN. | TORONTO, ONT. |
| HARTFORD, CONN. | JOHNSTOWN, PA. | COLUMBUS | DULUTH | KANSAS CITY | WINNIPEG, MAN. |
| NEW YORK CITY | ALLENTOWN, PA. | CINCINNATI | ST. LOUIS | DENVER | CALGARY, ALTA. |
| SYRACUSE | ERIE, PA. | TOLEDO | BIRMINGHAM | SALT LAKE CITY | LONDON |
| ALBANY | WHEELING, W. VA. | INDIANAPOLIS | NASHVILLE | BUTTE, MONT. | OSLO |
| ROCHESTER | WASHINGTON, D. C. | EVANSVILLE, IND. | CHATTANOOGA | SPOKANE | MELBOURNE |
| BUFFALO | BALTIMORE, MD. | CHICAGO | MEMPHIS | PORTLAND, ORE. | TOKIO, OSAKA |
| PHILADELPHIA | CHARLOTTE, N. C. | PEORIA, ILL. | NEW ORLEANS | SEATTLE | BUENOS AIRES |

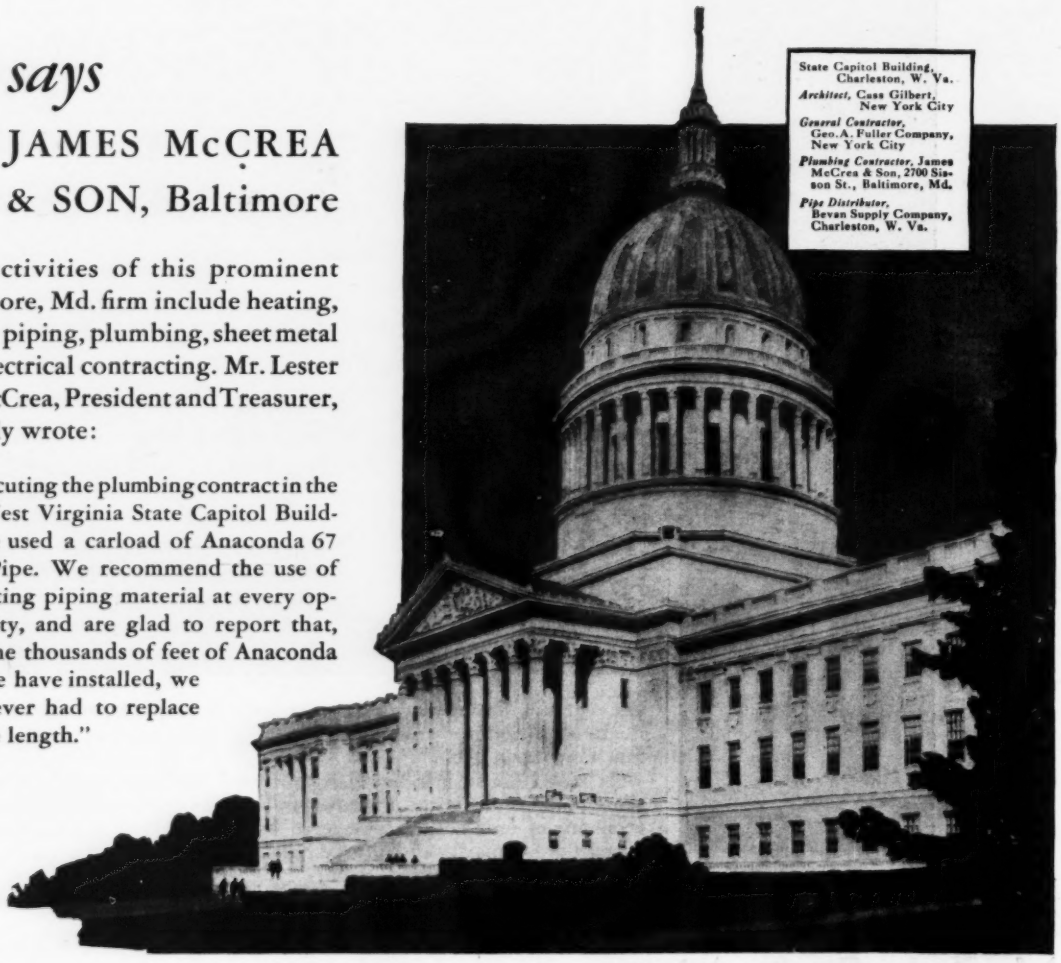
# "We have *never* had to replace a single length..."

*says*

JAMES McCREA & SON, Baltimore

The activities of this prominent Baltimore, Md. firm include heating, power piping, plumbing, sheet metal and electrical contracting. Mr. Lester W. McCrea, President and Treasurer, recently wrote:

"In executing the plumbing contract in the new West Virginia State Capitol Building, we used a carload of Anaconda 67 Brass Pipe. We recommend the use of this lasting piping material at every opportunity, and are glad to report that, of all the thousands of feet of Anaconda Pipe we have installed, we have never had to replace a single length."



State Capitol Building, Charleston, W. Va.
*Architect,* Cass Gilbert, New York City
*General Contractor,* Geo. A. Fuller Company, New York City
*Plumbing Contractor,* James McCrea & Son, 2700 Sisson St., Baltimore, Md.
*Pipe Distributor,* Bevan Supply Company, Charleston, W. Va.

Mr. McCrea's letter is typical of the high regard which thousands of successful plumbing contractors have for Anaconda Brass Pipe. This confidence is not misplaced. Anaconda Brass Pipe is made by methods developed during more than a century's experience in brass making.

Leading plumbing supply houses the country over stock Anaconda 67 Brass Pipe, Anaconda 85 Red-Brass Pipe and Anaconda Deoxidized Copper Water Tubes. Anaconda "85" is recommended for service under conditions that are more than ordinarily corrosive. Contractors who have installed "85" know how easily it threads.

ANACONDA from mine to consumer

The American Brass Company. General Offices: Waterbury, Connecticut. Offices and Agencies in Principal Cities.

# ANACONDA BRASS PIPE

Fig. 106-A Jenkins Standard Bronze Globe Valve, Screwed. For 150 lbs. steam or 250 lbs. water working pressure. Special features are one-piece screw-over bonnet, and slip-on stay-on disc holder.

# This Bonnet has Unity, Solidity, Durability

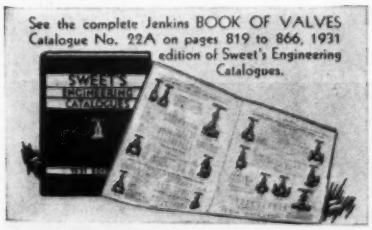
BY combining the two unique advantages of the one-piece screw-over bonnet and the slip-on stay-on disc holder, Fig. 106-A is in a class by itself. There is no other standard bronze globe valve like it.

This bonnet is cast in a single solid piece. Of generous proportions, it has unusual strength. You can take it off the body repeatedly and it won't distort. Neither will it spring.

Note the large generous faces of the hexagon. Providing more than ample purchase for the wrench, they make it easy to remove the bonnet.

Fig. 106-A has more spindle threads in contact with the bonnet, an extra deep stuffing box holding more packing, and, of course, the Jenkins renewable disc which insures leak-tight closing.

This series is also made in angle, cross, and check patterns. At your supply house. Write to us for Form 141.


See the complete Jenkins BOOK OF VALVES Catalogue No. 22A on pages 819 to 866, 1931 edition of Sweet's Engineering Catalogues.
SWEET'S ENGINEERING CATALOGUES

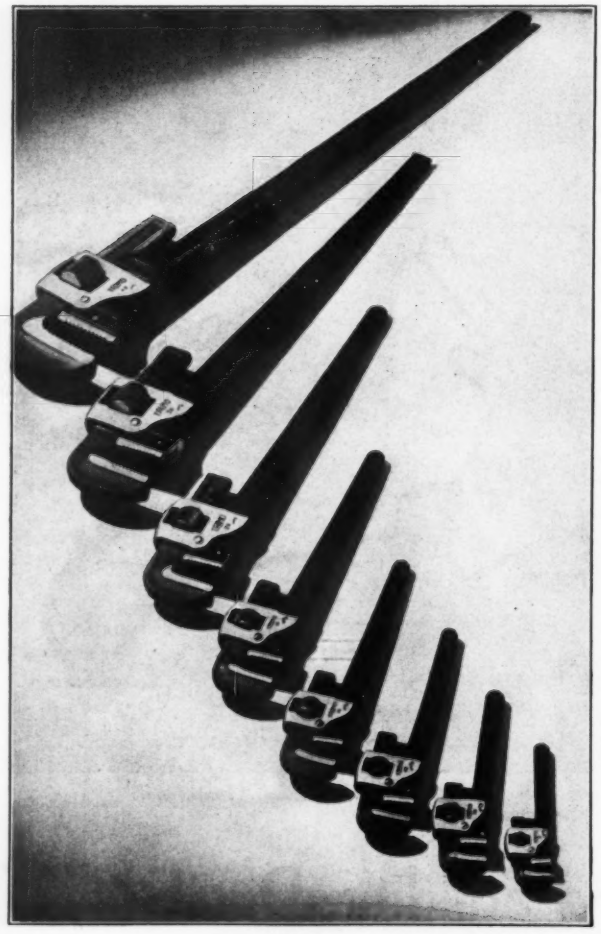
◆

JENKINS BROS.

80 White St., New York, N. Y.; 524 Atlantic Avenue, Boston, Mass.; 133 No. Seventh St., Philadelphia, Pa.; 646 Washington Blvd., Chicago, Ill., 1121 No. San Jacinto, Houston, Texas. JENKINS BROS., Limited, Montreal, Canada; London, Eng. Factories: Bridgeport, Conn.; Elizabeth, N. J.; Montreal, Canada

Jenkins
BRONZE IRON STEEL
VALVES
Since 1864

# *Matched irons for play*



# Matched Tools *for work*

**A SET of matched irons doesn't necessarily mean that the golfer who owns them is going to shoot the course in par. But it does show that he isn't overlooking any bets to get the most out of his game.**

**A set of matched TRIMO pipe wrenches will go a long way in getting the most work done in the shortest time. Alike in strength and safety and alike in their easy, positive ratchet action, a set of all steel TRIMO wrenches will put an end to slipping and locking, bruised knuckles and wasted time.**

***Modernize your tool equipment by standardizing on TRIMO — in all sizes from 6″ to 48″.***

**TRIMONT MFG. CO.**
**Roxbury (Boston), Mass.**

***Makers of TRIMO Tools for over 40 years***

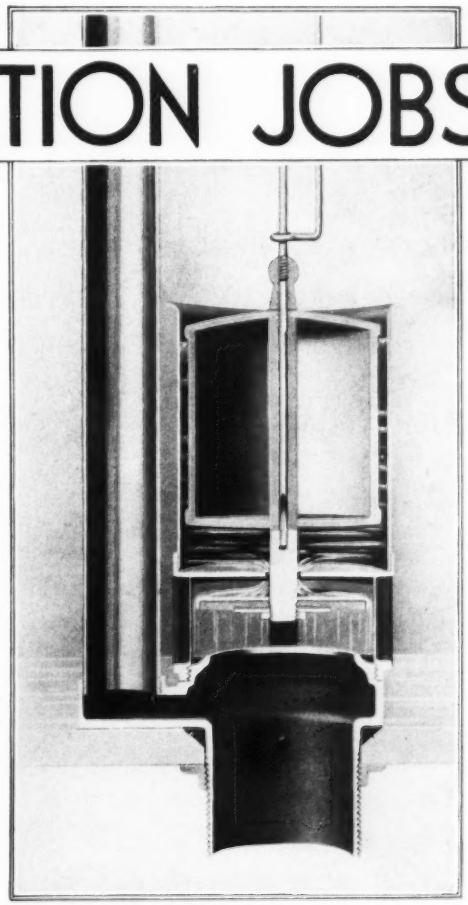
TRIMO

*Have you found out the easier way to cut pipe? Ask your dealer for TRICROME wheels*

**ALL STEEL TRIMO PIPE WRENCH**

QUIET and ENDURING

# RECONSTRUCTION JOBS



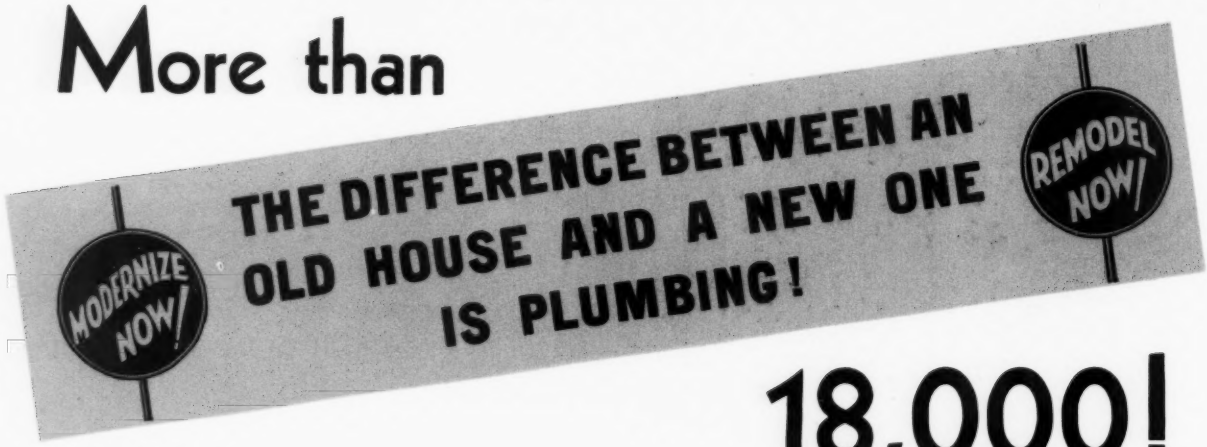
Leaky valves, water rushing and whistling into the bathroom tank, have nc place today in the American home. High living standards demand quiet, noiseless valves and ballcocks.

You can do extra business, make extra profits right in your own neighborhood by replacing worn fixtures with Curtin Noiseless Tank Fittings. And, by the way, make new friends.

**A. F. CURTIN VALVE COMPANY**
Medford, Massachusetts

# CURTIN
TANK NOISELESS FITTINGS

# More than




# 18,000!

Actual size
25" x 4½"

**Yes, sir!** More than 18,000 of these window posters have been distributed to contractors and jobbers all over the country. You'll see them in windows, in plumbing show rooms, on trucks and automobiles, imprinted on letterheads, envelopes, billheads, in manufacturers', jobbers' and contractors' advertising.

The plumbing industry is out to put this point over with apartment and home owners all over the country: "The Difference Between An Old House and A New One Is Plumbing!"

Do your share — sell your share — get your share of the remodeling business! Use this poster — use the slogan. The more you use it, the more you drive home the fact that house remodeling work begins with what you have to sell!

Send us only a stamped, addressed envelope for a FREE poster. Or, send us 95 cents for 100 posters and we will ship them, prepaid, with stickers enough to put them up, to any part of the country. Send 50 cents for 50 posters or a quarter for 25. Ten cents for ten of these posters, enough to use in all of your windows, in your store, on your truck and automobile.

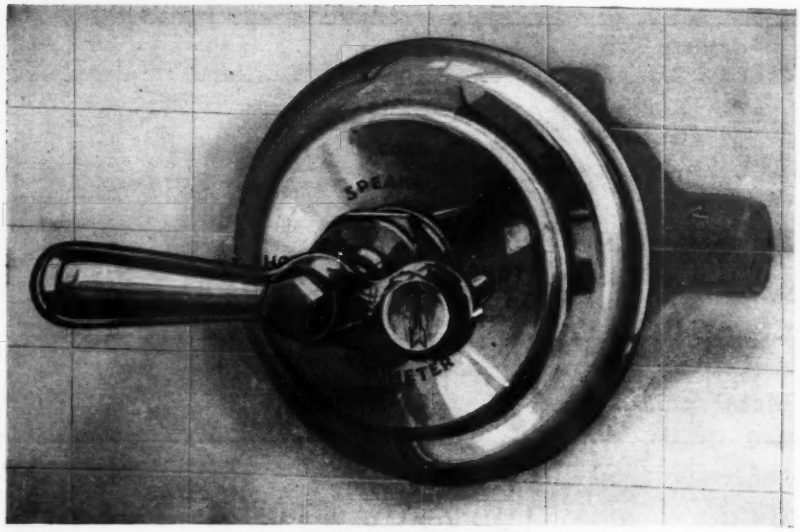
Get in on this big, nation-wide remodeling sales drive NOW! Don't wait another minute. If you've exhausted your supply, order more!

And, ask us about the Remodeling
Charts and Guide to Remodeling Sales!

## *Sell New Plumbing Now!*

## DOMESTIC ENGINEERING

1900 Prairie Avenue » « Chicago, Illinois



K-3365—SPEAKMAN Built-In Mixometer

**Anyone can get the right shower temperature instantly . . . . . with**

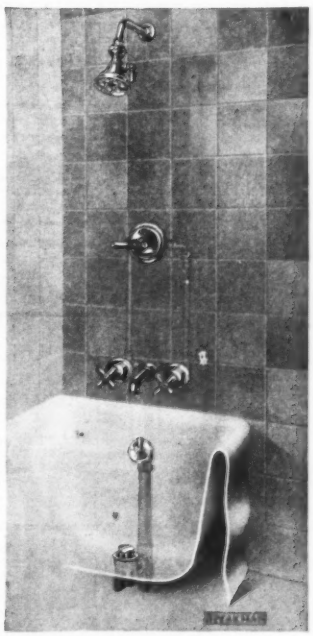
# The SPEAKMAN MIXOMETER

THERE is nothing that will ever get out of order in a Mixometer — It is as easily installed or re-washered as single valves—the entire mechanism is removable from the front.

Speakman Mixometer Showers are furnished in both concealed and exposed types; also in combination with various types of bath supplies and wastes.

*New literature on Speakman Mixometers and Mixometer Showers is ready. We'll imprint your name and address on a quantity — send them to customers interested in showers.*

**SPEAKMAN COMPANY**
**Wilmington, Delaware**



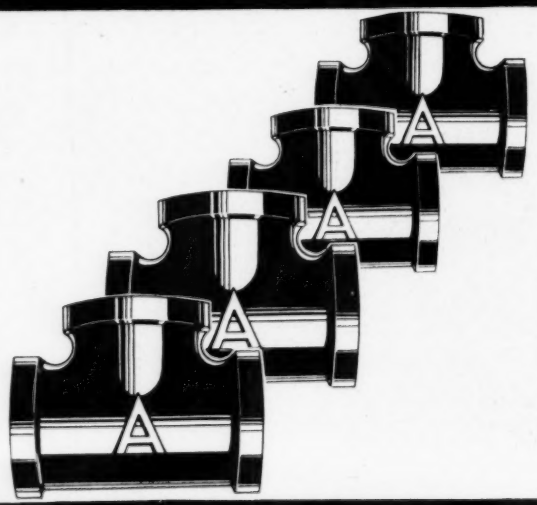
K-4039-M—SPEAKMAN Mixometer Shower and Tub Combination

½ inch size. All metal handles and escutcheons. Has Speakman Anystream Self-Cleaning Shower Head and Act-Easy Pop-up Waste. Valve connected by brass pipe and tested.

## SPEAKMAN *Showers and Fixtures*

# RED METAL · AIR TESTED · BRASS FITTINGS ·

A complete quality line of finest Brass Fittings sold at a price that allows the widest possible margin of profit for you. American Valve Fittings are made of Electrically melted Ingot Metal and individually air tested under water. Sizes complete through 4-inch malleable pattern.




# FOR 30 YEARS THIS COMPLETE LINE OF VALVES HAS SERVED THE PLUMBING & HEATING INDUSTRY

Complete stocks of:
Brass and Iron Gate Valves—Globe and Angle Valves—Standard and American type disc—Brass and Iron Swing Checks—Red Metal Brass Fittings—carried at main warehouse
16-20 Nassau St., Brooklyn, N. Y.

During the past thirty years the plumbing and heating trade has come to depend upon American Valves as those into which they could put their confidence. This year sees a far reaching forward step in the American Valve Company. An entirely new management brings new ideals, new improved production methods, new promises to be fulfilled.

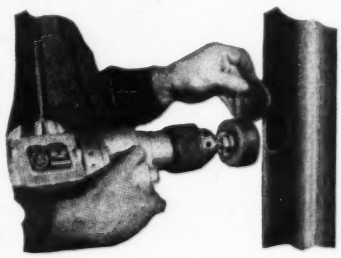
Improved service to the trade is the major purpose of the incoming organization. Improved service and the maintenance of the high standard of quality for which American Valves have always been noted.

# AMERICAN · VALVE · CO.

# For Clean Round Holes

# You Need These Handy HOLE SAWS

BLACK & DECKER Hole Saws are a real solution to the problem of cutting clean round holes in metal, wood or any material that can be cut with a hack saw. Used with Black & Decker Portable Electric Drills, they are ideal for cutting holes in conduit boxes, partitions, soil pipe, radiators, tanks, bathtubs, sinks, furnaces, hardwood floors, etc.



**Black & Decker Hole Saws for Use with ½", ⅝" and ¾" Drills.**

Made of the finest quality tungsten steel, carefully hardened, strong and durable. The Mandrel automatically holds a ¼" twist drill which serves as a guide for the saw. These Hole Saws are available for cutting holes from ¾" to 4" diameter—to a depth of ⅞".

***Plumber's Hole Cutting Kit***

Contains ½" Electric Drill and variety of hole saws, wood augers, twist drill bits, etc. Will take care of practically all hole cutting jobs. Ample room for other tools.

***Grinders for Sharp Tools***

Electric Bench Grinders in 6", 7" and 10" sizes. Just right for tool sharpening, light grinding and buffing. Coarse and fine grinding wheels.

***Electric Tappers Save Time***

Quickly tap threads in steel, cast iron, brass, aluminum, etc. When thread is completed a slight pull backs the tap out. Capacity ¼" to ½". Reduce tap breakage.

***See Them at Your Jobber's Today!***

**MAIL COUPON** **BLACK & DECKER** **FOR CATALOG**

**TOWSON, MARYLAND**
**U. S. A.**

**Slough, Bucks., England** **Toronto, Ontario, Canada** **Sydney, Australia**

*The* BLACK & DECKER MFG. CO.,
TOWSON, MARYLAND, U. S. A.

Send illustrated catalog showing the complete line of Black & Decker Portable Electric Tools.

I am particularly interested in: DE

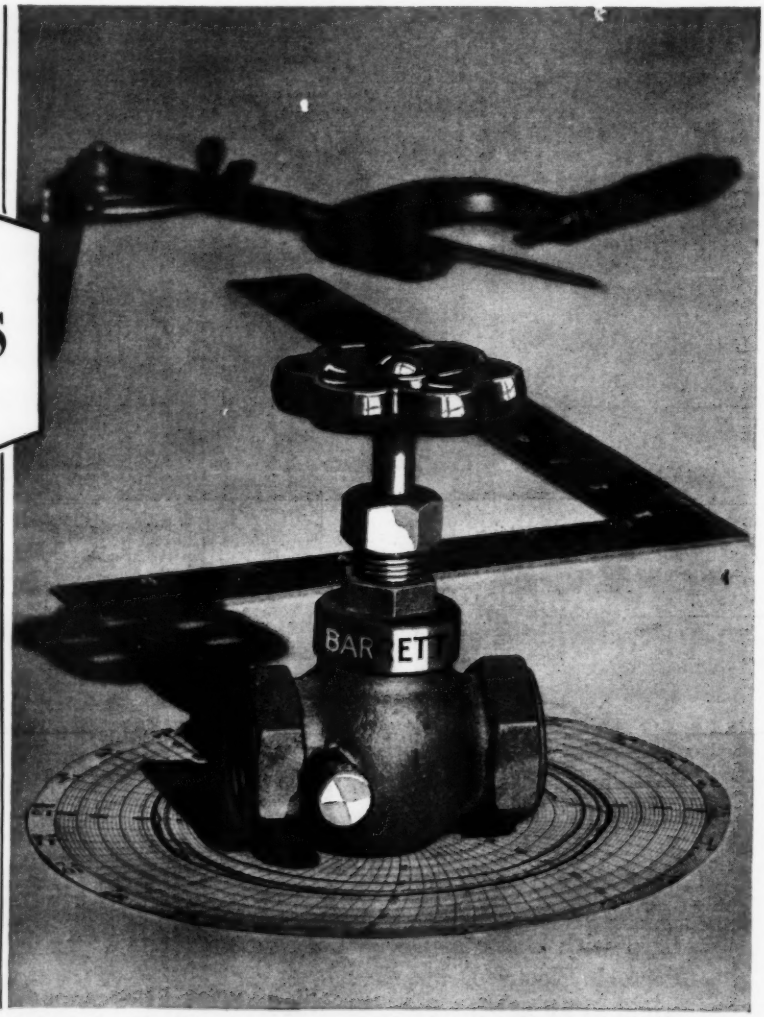
☐ Hole Saws ☐ Plumber's Kits
☐ Electric Drills ☐ Electric Tappers
☐ Bench Grinders

*Name* .....

*Address* .....

*Jobber's Name* .....

# TO YOUR STANDARDS ..*not ours*




"THE STANDARD OF COMPARISON"

WHEN a man builds into a line of products a sense of responsibility for the performance of these products, he is careful of the standards he adopts. No product can be better than the standards that are set up to control its worth.

Barrett Plumbers' Rough Brass Goods for 39 years have been built to the standards of plumbing contractors. Every item in the Barrett line embodies the ideas of contractors thoroughly qualified to establish the standards of performance for rough brass goods. Your standards—your concept of what is *solid worth* determines the materials, workmanship and processes used in the Barrett line of Plumbers' Rough Brass Goods.

Adhering to these standards prohibits engaging in the manufacture of rough brass goods at a price... requires the continual application of sound engineering principles to the design and manufacture of such goods on the basis of *practical use.*

Make the Barrett line your standard of comparison for rough brass goods. Handled by jobbers everywhere.

THE CLEVELAND BRASS MFG. COMPANY
4606-4700 Hamilton Ave. Cleveland, Ohio

*Compression Stops*
*Compression Stops & Waste*
*Ground Key Line*

# BARRETT
## PLUMBERS' *Rough* BRASS *Goods*

"THE STANDARD OF COMPARISON"

Plumbing Contractor:
John Weil Co.
328 E. 33rd St., N. Y.

TANKS
FOR EVERY
REQUIREMENT

# COPPER FOR SATISFACTION

For the mighty Irving Trust Building in New York City the highest pressure copper tank ever constructed for general use, "according to our knowledge," was built by GERSTEIN & COOPER Co.

This fact only emphasizes the completeness of Gerstein & Cooper Service.

Whatever your particular need, as long as you want super-fine quality, you will find Gerstein & Cooper ready to fill your order.

The trade has long been acquainted with Tanks by Gerstein & Cooper. Nationally known manufacturers of storage systems have standardized on Gerstein & Cooper copper tanks. From the smallest range boiler to the one shown, they all are of the finest quality that fine materials and workmanship can produce.

*Our complete catalog sent to you on request*

**GERSTEIN & COOPER CO.**
**1-3 W. Third St., So. Boston, Mass.**

Gerstein & Cooper Co., Baltimore, Md.
G. Mason Price, Montreal, P. Q.
E. N. Cokefair, Inc., New York, N. Y.
Troop Water Heater Co., Pittsburgh, Pa.

# GERSTEIN & COOPER COPPER TANKS

# WHEN
## You look into the AMERICAN BLOWER RED BOOK
## You are FACE to FACE with REAL PROFITS

### Fill out and mail the Coupon now

WHEN you look into our Red Book and see the great unit heater market spread before your very eyes . . . when you see how generously and completely we will cooperate with you to get a big share of the unit heater business in your territory, you'll be convinced that here are profits staring you right in your face!

Never before in the heating industry has any manufacturer offered contractors and dealers such a complete sales and advertising program as we offer you this year. Think of it . . . beautiful direct mail folders and cards in color, a complete series of newspaper advertisements, installation data, and many other real money-making helps have been specially designed for your use and are available to you *free of charge!*

Whether you are handling Venturafin Unit Heaters at present or not, you'll want to get a copy of our Red Book. Return the coupon for it at once. No obligation.

AMERICAN BLOWER CORPORATION, DETROIT, MICH.
CANADIAN SIROCCO COMPANY, WINDSOR, ONTARIO
*BRANCH OFFICES IN ALL PRINCIPAL CITIES*

**American Blower**
"Sirocco"
VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT
MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881

HEAT WITH UNIT HEATERS

AMERICAN BLOWER CORPORATION
6000 RUSSELL STREET
DETROIT, MICHIGAN

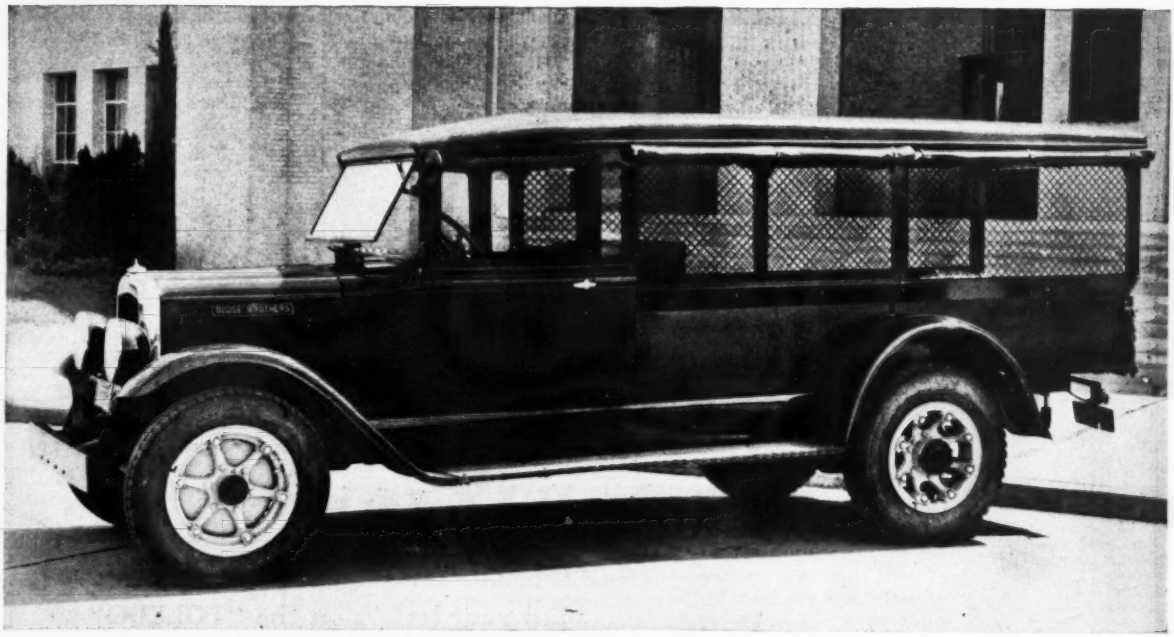
*Gentlemen:*
Please send me a copy of the *American Blower Red Book* at once. I understand I will not be obligated.

*Name*_____ *Firm*_____

*Street*_____ *City*_____ *State*_____

**Venturafin Unit Heaters for Economical and Controlled Heat**

(1165)



# DODGE RESOURCES GUARANTEE EXCEPTIONAL TRUCK VALUE FOR YOU

Part-by-part inspection will prove to you the surpassing merit of Dodge Trucks. Or you can get your proof by actual test. Or you can rely on the recommendations of other business men who own Dodge Trucks and know from actual experience what they will do. » » And whether you use one or all of these yardsticks, you can be certain that exceptional value is guaranteed by Dodge resources. Resources that can be reckoned not alone in dollars. Or in dollars plus modern and efficient plants and equipment. Those are vitally essential, to be sure. But Dodge resources also include a still more important factor—the experience Dodge engineers and workmen have gained in the building of more than four hundred thousand trucks. Experience that assures you the modern design, precision construction and part-to-part balance that will be reflected in greater dependability, lower cost and able performance throughout the truck's long life. » » See your nearest Dodge Brothers dealer. Inspect and test the type of Dodge Truck (Standard or Heavy-Duty) that exactly fits your needs. You will say it is every inch a modern truck—an exceptional value at its low price.

CAPACITIES IN THE HEAVY-DUTY LINE RANGE FROM 3,600 TO 11,175 POUNDS —AND UP, FOR TRACTOR AND TRAILER SERVICE. PRICES ARE EXCEPTIONALLY LOW. » » THE STANDARD LINE RANGES IN PAYLOAD CAPACITY FROM 1,200 TO 4,300 POUNDS AND INCLUDES THE 1½-TON CHASSIS AT $595 F. O. B. DETROIT

**TO HELP LOWER YOUR HAULING COSTS OPERATING RECORD BOOK FREE**

DODGE BROTHERS CORPORATION C-38
Detroit, Michigan
Send your Operating Record Book. I understand there is no obligation.
NAME _____
ADDRESS _____
CITY _____ STATE _____
Number of Trucks Operated *(Book for each will be sent)* _____

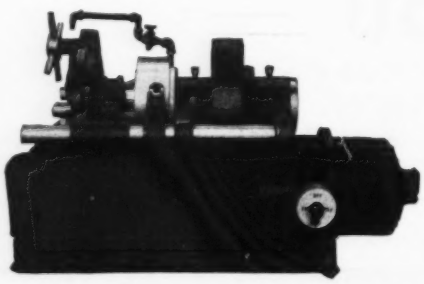
DEPENDABLE
# DODGE TRUCKS

# HURRY!

## YOUR LAST CHANCE TO ENTER THE "TOLEDO" GOOD-TOOL CONTEST ENDS JULY 15th

Mail your letters on the "TOLEDO" Good Tool Contest so they will reach us not later than July 15th, as all letters must be in our office on that date.

If you have not entered and desire to do so, see your distributor with a "TOLEDO" Display Board for full information and rules. A few minutes of your time may win for you one of the 45 valuable prizes to be awarded.



—AND THE FIRST PRIZE IS A NEW "TOLEDO" No. 999 ½" to 2" PIPE MACHINE

A copy of the winning letter will be sent to all contestants and the valuable information contained therein will more than repay you for your time spent.

Enter today and mail your letter promptly.

**THE TOLEDO PIPE THREADING MACHINE CO.** TOLEDO, OHIO

"TOLEDO"

*IT PAYS TO BUY THE BEST*

DOMESTIC
ENGINEERING
JULY 11, 1931

# Our Industry

For the first time in many years, team work is coming into the business of selling gas appliances.

♦ ♦

The manufacturers and utility companies, after a long costly experiment in trying to work out another scheme of selling, are turning again to the plumbing and heating dealer as their salesman.

♦ ♦

The set of principles, just announced by the American Gas Association, whose membership takes in a great majority of the gas companies, marks the turning point.

♦ ♦

Whatever reason you want to give for this change, whether or not it was dictated by fear of political troubles, what part the manufacturers may have played because of their growing dissatisfaction with the utilities as outlets, what influence the rapid increase in the merchandising ability of the plumbing and heating dealer may have had—the fact remains that the utilities have taken a right-about-face on merchandising.

♦ ♦

The reasons for the change are relatively unimportant. The change itself is tremendously important. When the gas companies first began to merchandise appliances, the reason given was the necessity to increase the sale of the fuel by providing consumers with more means of using gas.

♦ ♦

Manufacturers, such as the water heater makers, who had been enjoying distribution through the plumbing and heating dealers, began to look with favor upon gas company orders. One order for a large number of heaters looked more attractive than many small orders from the plumbing and heating contractors.

♦ ♦

The differences between the selling methods of the utility company and of the independent dealer are generally well known.

♦ ♦

Usually the merchandising department of the gas company did not keep separate accounting records so that sales below cost, excessive trade-in allowances, exorbitant premiums, were all competitive methods which the independent dealer could not afford. Gas company officials justified them because of the later profit they anticipated from the consumption of fuel.

♦ ♦

The new principles of the American Gas Association, when set against this background, show that sound business methods have come back to the job of selling gas appliances.

♦ ♦

No announcement for years has meant more to everyone connected with the manufacture and sale of gas heating equipment. And it comes at a time when the plumbing and heating dealer is better equipped than ever before to replace the gas equipment industry on a profitable basis.

# Gas Companies Change Policy on Merchandising

## Set of principles adopted by Gas Association opens appliance field to dealers

THE plumbing and heating dealer can again take up the sale of gas appliances at a profit. An armistice has been declared in the long fight with the utility companies, a peace treaty has been drawn up and the progressive plumbing and heating dealer now has a fair opportunity to sell gas appliances of all kinds.

The end of many years of strife which caused losses to the dealers and to the utilities, and in many cases to the appliance manufacturers, is seen in the announcement by the American Gas Association of new merchandising principles and the acceptance of those principles by representative groups of plumbing and heating dealers.

Officers of both the National Association of Master Plumbers and the American Gas Association joined forces during the past few days in urging plumbing and heating dealers throughout the country to get in direct touch with the president of their local gas company and work out a program of co-operative merchandising.

Several facts show that such a co-operative arrangement means the definite reversal by the majority of the gas companies of their previous efforts to control the merchandising of gas burning appliances. For one thing the principles, as shown on the facing page, remove some of the unsound features of utility competition, that is, the selling below cost, the giving of abnormal premiums or of trade-in allowances and the lack of assistance to local dealers in their sales plans.

The principles were adopted at a meeting attended by 126 presidents of gas companies. The importance attached by these gas executives to these principles is further shown by the fact that at least four gas company sales managers have been asked to resign as a result of their failure to abide by these rules.

In addition, a direct offer is made to plumbing and heating dealers that if a prompt and satisfactory sales program can not be worked out with the local gas company, the dealers should notify their own national officers and the American Gas Association pledges itself to send its own representative to that locality to assist in securing an agreement on the new sales program.

This change in the viewpoint of the gas companies brings back to the plumbing and heating dealers the principal responsibility of selling the many types of gas burning appliances of which he was formerly the leading distributor. Gas, of course, is used for heating, for providing domestic hot water, for refrigeration and in many directions in which the mechanical skill of the plumbing and heating dealers were required to secure a satisfactory installation. But with the entrance of the gas companies into the merchandising field, a number of years ago, competition for water heater and similar business became acute.

The gas companies, while always protesting that their sole interest was the building up of a demand for gas, nevertheless continued to actively develop their merchandising departments. The charge has been repeatedly made that such merchandising departments were usually operated at a loss.

### Will Use New Methods

Gas company officials now admit that many of their merchandising practices were unsound. The abuse of premiums, selling below cost, ability to threaten to cut off the gas service in case of non-payment, the ignoring of the sound business principle of making a profit on the merchandise, all of these united to make utility competition an unfair burden to the independent dealer.

It also operated to make the utility companies' accounts more attractive to most manufacturers of gas burning appliances, only to find themselves, after a time, competing for these volume orders from the gas companies

***No appliances not related to the use of gas . . . . a proper mark-up on appliances . . . . No premiums or trade-in allowances unless all can participate . . . . Help in advertising, and a reasonable time payment plan . . . . These are the rules set down for the guidance of members of the American Gas Association.***

## Principles Suggested for the Guidance of Member Companies as a Basis for Promoting Co-operative Trade Relations

*It is recommended that gas companies take the initiative in bringing about conferences with dealers in their localities to the end that the following, or other mutually acceptable principles be agreed upon, adopted, and put into use for the purpose of stimulating the sale of suitable gas appliances and promoting the use of gas service in a way that will be mutually advantageous to all participants.*

1. All gas appliances offered for sale by all co-operative agencies shall bear the seal of approval of the American Gas Association testing laboratories.
2. No appliances or merchandise not directly related to the use of gas shall be sold by gas utilities.
3. In all merchandising activities the mark-up of all gas appliances that have received reasonable customer acceptance shall be consistent with present-day merchandising practices. There shall be no premiums given or trade-in allowance made in connection with the sale of such appliances unless all co-operating agencies are in a position to participate.
4. The presenting to the public of those gas appliances not having received reasonable public acceptance shall be considered as promotional activities and not as merchandising activities.
5. Co-ordinated advertising of approved appliances should be developed by gas utility companies and local dealers and the gas company should give all reasonable assistance possible to the dealer in advertising displays and sales assistance.
6. The deferred payment feature of our merchandising activities shall be on an economical, sound basis.

American Gas Association

on a price basis which left little or no profit for the manufacturer himself.

These unsound business methods began to build up resistance and criticism. The gas company officials began to discover that the price they were paying for this privilege of merchandising was at the expense of the many thousands of independent dealers who resented these inequitable methods. Here and there, individual gas companies started to try out a co-operative plan with dealers. Naturally many of these plans were short-lived, but from this experience some executives were able to develop workable plans.

### Plumbing Dealers Outsell Gas Salesmen

One of the best examples was reported in DOMESTIC ENGINEERING on page 62 of our March 21 issue and shows how the New Orleans plumbing dealers, when given the opportunity of competing on an equal basis with the gas company, were able to largely increase the sale of water heaters and thus add to the business of the gas companies, by increasing the consumption of gas. The New Orleans gas company was so impressed by this demonstration of the ability of the plumbing and heating dealer to sell water heaters that it gave up its own direct sales efforts.

In other cities, some of which cases have been reported in these columns, successful plans were developed.

The factor which probably brought the situation to a definite decision and led the gas companies to decide to work with the plumbing and heating dealers rather than fight them, was the growth in the past year or two of the political feeling against power and utility companies. Candidates for political office, both state and national, who adopted a platform opposing the power companies were almost invariably successful in winning the majority of votes. This brought on legislative attacks on merchandising by utilities in a dozen or more states, with Kansas and Oklahoma passing laws compelling utilities to give up merchandising. The legislative attack on chain stores and the imposing of special tax burdens on such stores are all a part of the political development which is threatening to curtail the activities of the utilities and add new expenses. The good will of the independent dealers is thus of greater value than ever before to the gas companies.

These facts taken in conjunction with the voluntary action of the American Gas Association members in working out these new merchandising principles and putting them so promptly and effectively into practice, justifies the assertion that plumbing and heating dealers now resume their position as the principal factor in the sale of gas burning appliances.

This tremendously important change finds the plumbing and heating dealers much better equipped to not only hold the sale of these appliances at the level set by the utilities but as proved in the New Orleans example, to increase such sales. During recent years when utility competition was taking much of this business away from them, these dealers have been undergoing an intensive training in merchandising. This has been capped in the past two years by the dropping off in new contract work which has led progressive dealers all over the country to concentrate on the merchandising of specialties and the sale of plumbing and heating goods for remodeling.

The article by C. M. Woolley, president of the American Radiator & Standard Sanitary Corporation in the June 13 issue of DOMESTIC ENGINEERING, which relates the experiences of that company in selling 34,911 remodeling jobs during the last 8 months in 1930, when other business was dropping, is particularly instructive because it shows that such results were obtained only through working with the plumbing and heating dealer. A test by Mr. Woolley's company showed that only one order was secured in 350 calls when the salesmen or dealer followed typical house to house canvassing methods, but when calls were made on prospects already qualified by the plumbing and heating dealer, one order was secured out of every 3.1 calls, or more than 100 times as many actual orders.

The great increase in the sales ability of the plumbing and heating dealer in the past few years is shown not only by the above examples but by the energy with which they are resuming the sales promotion of gas burning equipment. In those states where business is returning to them through legislation prohibiting utility companies from continuing such sales, the dealers immediately set to work preparing themselves for the active promotion of gas appliance business, particularly water heaters. Since these new principles of the American Gas Association were announced, talks with a great many dealers reveal their intention of making an aggressive drive now for such business.

## Reports to Master Plumbers on Gas Company Proposal

Following is J. L. Murphy's report, made at the Milwaukee meeting of the National Association of Master Plumbers, for the special committee appointed to confer with the American Gas Association on merchandising activities:

"The special committee was appointed by President Drake to confer with the American Gas Association on merchandising methods, and on March 2, 1931, there was a general meeting of the American Gas Association and the committee of the National Association. On your committee were your president, George H. Drake, George W. Frank, and Jere L. Murphy.

"Mr. Drake explained to the members of the American Gas Association that the master plumbers of the United States were not impressed with the manner in which the gas companies of the United States were co-operating with the plumbers, and that they would like to see a closer co-operation. He also stated that he knew that if such co-operation obtained, the American public would be better served.

"The representative of the American Gas Association promised to co-operate, with the result that we had a later meeting, and that they formulated a set of principles, copies of which were to be sent out to all members of the American Gas Association. Following is the set of principles adopted by the American Gas Association's executive board May 2, 1931:

"The committee appointed by President Drake to take care of this matter was composed of P. W. Donoghue of Boston, M. J. Feeney of Philadelphia, and Jere L. Murphy. This committee met on June 3, at the

**Plumbing and heating contractors, all over the country, who are showing gas water heaters, will benefit by the new co-operation with the utilities**

office of Colonel Fogg of the Consolidated Gas Company. The question of co-operation was gone into at this meeting, and Colonel Fogg stated that the principles as given in this report had already been sent to the members of his association, and their influence had already been felt in some parts of the country. He stated further that they were requesting sincere co-operation between all of the members of the A. G. A. and the plumbers throughout the country. Mr. Donoghue extended an invitation to Colonel Fogg to attend the national convention, but due to the fact that Colonel Fogg had previous engagements, he suggested that Mr. Cuthrell take his place. Therefore, Mr. Cuthrell is in attendance at this convention and will speak to you."

## Tells What Utilities Offer

"It is a very great privilege," Mr. Cuthrell began, "to be permitted to speak to you this morning for the American Gas Association. This subject of trade relations has had the serious consideration of the executives of the leading utilities, as is shown in the set of principles Mr. Murphy read to you.

"As a result of investigations, and in an effort to foster a spirit of co-operation, the American Gas Association through its executive board at a meeting held at Atlantic City, May 2, drew up this set of principles.

"I want you to know that at that executive conference 120 presidents of gas companies in the United States were present and unanimously approved the set of principles drawn up by the American Gas Association for its conference with your president and his committee.

"Considering the fact that gas companies have been operating in many of our cities for upward of one hundred years, it may seem strange that no one thought of this before. The gas industry is the oldest of the utilities. Many of its pioneering experiences have been the guide posts for other utilities. Within its own sphere of activity, the gas industry has been required to do much pioneering work and to carry on almost continuously since its inception a campaign of investigation.

"Originally gas was used as an illuminative. With the commercial exploitation of electricity, the gas industry had to seek new markets for its product. Out of this grew the stressing of the gas range. With the development of gas for cooking, another burden of selling gas cooking equipment rested on the utility company. The companies had no outlets, for the dealers, then as now, were not interested in undertaking a primarily promotional effort as distinguished from a merchandising effort.

"It may be generally said that the only piece of equipment which has general acceptance is the conventional gas range. And even here, new models with important changes need promotion.

"There is no escape for the utility from creating a market for equipment. The dealer is interested in merchandising activities from the standpoint of merchandising profit. The utility is interested for the purpose of expanding gas service, and that is its whole incentive. With such entirely different motives animating each group, and with the express desire for mutual co-operation, it becomes a problem of finding a common ground for co-operation.

"We believe the principles of our association will go far in establishing such a basis. They are not all-embracing, because different conditions may require modifi-

cation. They are submitted as guides, not as limitations.

"In some quarters there have been expressed demands that the utility cease merchandising entirely. This has been done, with the result that the sales of the gas company and the dealer have suffered alike. I believe a program which will give full consideration to the promotional interests and at the same time give due weight to the merchandising problems involved will be sound.

"The statement of principles of the American Gas Association are necessarily general, as it would be impossible to make a detailed declaration that would fit the many and varied local situations that will develop throughout our country. These principles represent not only the official position of the American Gas Association, but further they express the individual opinions of the leading executives of the gas industry. These opinions are offered for your consideration and if your association looks upon them with favor, and will aid in their operation in various localities, such help will be effective in eliminating unfair competition and developing co-operative sales activities.

"In addition to this, the American Gas Association offered its services in bringing about the adoption of these principles by individual companies wherever special situations might arise. That means just this: If you can not secure the co-operation of the gas company in your particular locality, write your national headquarters. They will get in touch with our offices and we will send a representative of the American Gas Association in that territory to work out with you and with the gas company a solution.

"This statement of principles is not regarded as the final expression on this subject and it is rather sure to change from year to year. The American Gas Association contemplates reviewing these recommendations from time to time. No national movement of the type we are discussing this morning can succeed except as a result of local meetings held by local utilities and dealers. At such meetings agreements can be reached as to appliances in the promotional stage and those in the merchandising stage.

"I have attempted to make clear to you what is the best method of helping the two industries that are natural allies. But if, as an association, you feel that you are unable to adopt the principles under discussion I want you to know that it is the intention of the American Gas Association to proceed with the plan I have outlined and to correct, if and where they exist, so far as possible, any merchandising practices unfair to the dealer. We have been working on a plan of this kind in Brooklyn. We started in June of 1929 and there has been a steady increase in understanding and co-operation between the two groups.

"Already four gas company sales managers have been asked to resign as a result of their failure to abide by these rules.

"I would recommend that you appoint committees immediately in all of your communities and let those committees become permanent. Have them contact directly with presidents of local gas companies and not with some sub-executive."

Upon the conclusion of Mr. Cuthrell's remarks, President Drake said that, "I want to say that when we went to New York with a definite appointment to see the president of the American Gas Association, we were received very cordially and the results have been very satisfactory from the reports that we get from a number of different sections of the country."

Upon a question from the chair as to the sense of the meeting, there was a unanimous vote to continue the committee, and approving the policy thus far outlined.

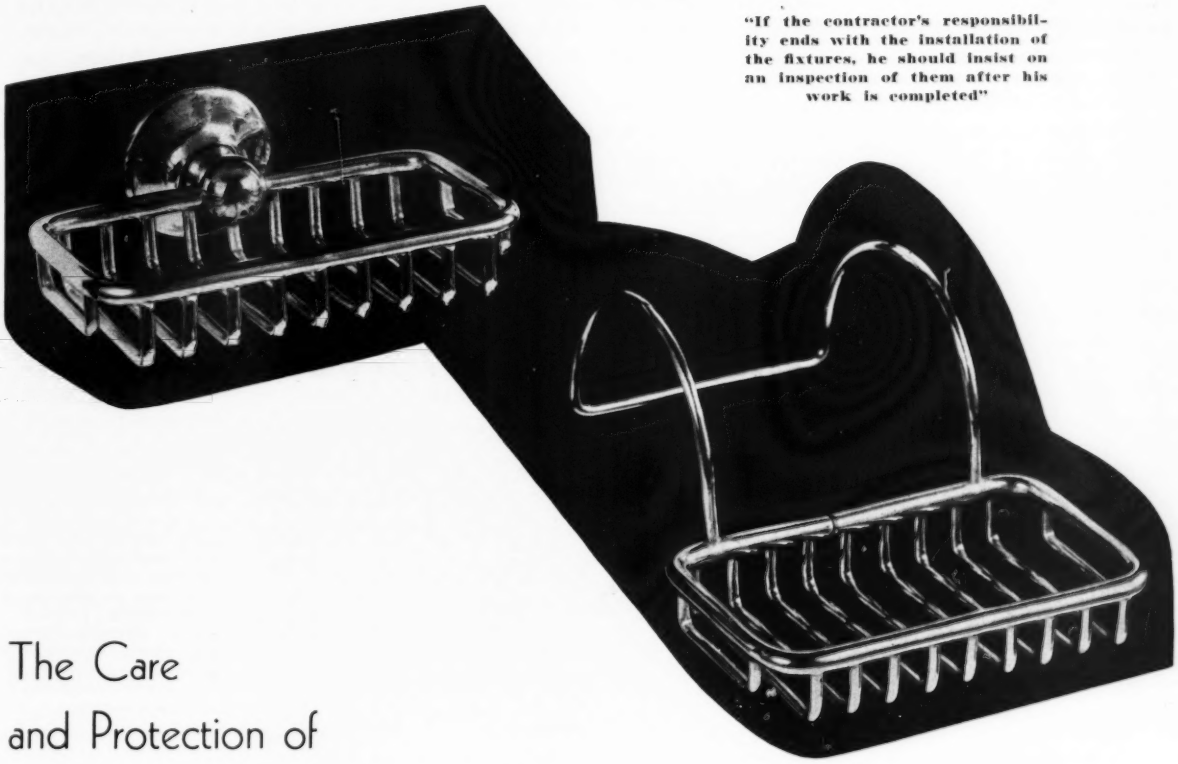
A little bit later in the Milwaukee program, a member took the floor to stress the idea that the reason for the attitude of the gas companies was that they wanted their hands strengthened. M. J. Feeney of Philadelphia replied to the effect that this was a mistaken viewpoint. For one thing, he indicated that if the gas companies really desired to continue the sale of equipment, they could set up subsidiary companies. Referring to the various bills introduced in state legislatures forbidding the sale of merchandise by the utilities, he said that of twelve such bills, three were introduced by master plumbers and the rest by hardware and electrical dealers.

Continuing his remarks, Mr. Feeney said: "Colonel Fogg told the committee of some of the unethical practices used by gas companies. He told of one company where, if they sold you a colored gas range, they would paint your kitchen to match it, without charge.

"To show that they are sincere, our national vice president, Mr. Donoghue, stated a case he had in Boston just before he left there. Colonel Fogg immediately telephoned the gas company in Boston and arranged for a meeting as soon as Mr. Donoghue returned. This tie-up your committee has made is one of the best things that ever happened. It takes money to fight utility companies and we are not financed to fight corporations.

"You do not have to fight them. The gas companies need you because they are losing business. Electrical service is cutting into them. They want us, but we won't get anywhere if we fight.

"I would say to you that you must form your committees, get to utility companies and make your conditions known to them. We will get along a whole lot better by tieing up with the gas companies."



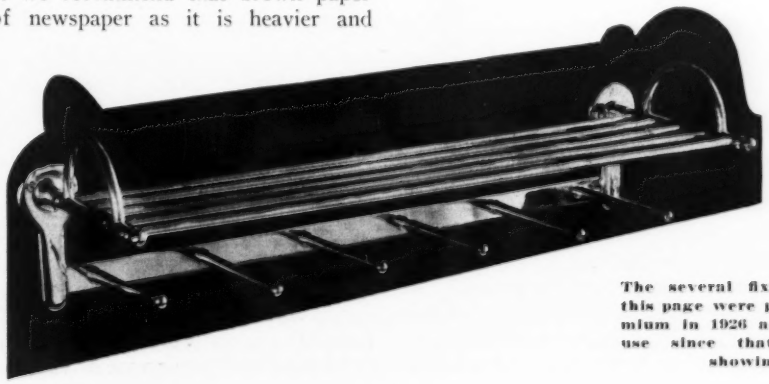
**"If the contractor's responsibility ends with the installation of the fixtures, he should insist on an inspection of them after his work is completed"**

The Care
and Protection of

# Plumbing Fixture Finishes

"WOULD newspaper pasted on a bathtub for about two weeks in a cold room effect the gloss on the enamel? The paste was composed of flour and water." This question was sent to us several days ago by a plumbing and heating contractor located in Ontario, Canada. One answer, submitted by the Sanitary Enamel War Association states, "For some time our association has given consideration to the proper type of paste to be used in connection with enameled iron and one company has developed a paste which they say is absolutely harmless to enamel or gloss. Our experience is that water and flour paste does not affect enameled ware, but we recommend that brown paper be used instead of newspaper as it is heavier and does not contain printers ink. We also believe that if brown paper is used, adhesive tape may be used to hold the paper in place with no ill effects."

We do not know any of the circumstances about the case in question other than those already stated in the first sentence. However, it would seem that the contractor has run into difficulties which he is at a loss to fully explain. Possibly the owner has rejected the installation and has refused to make a settlement without receiving a new tub. Possibly the gloss on the enamel was injured by the tilesetters when they washed down their wall. In any event, the fact remains that the tub was marred on the job



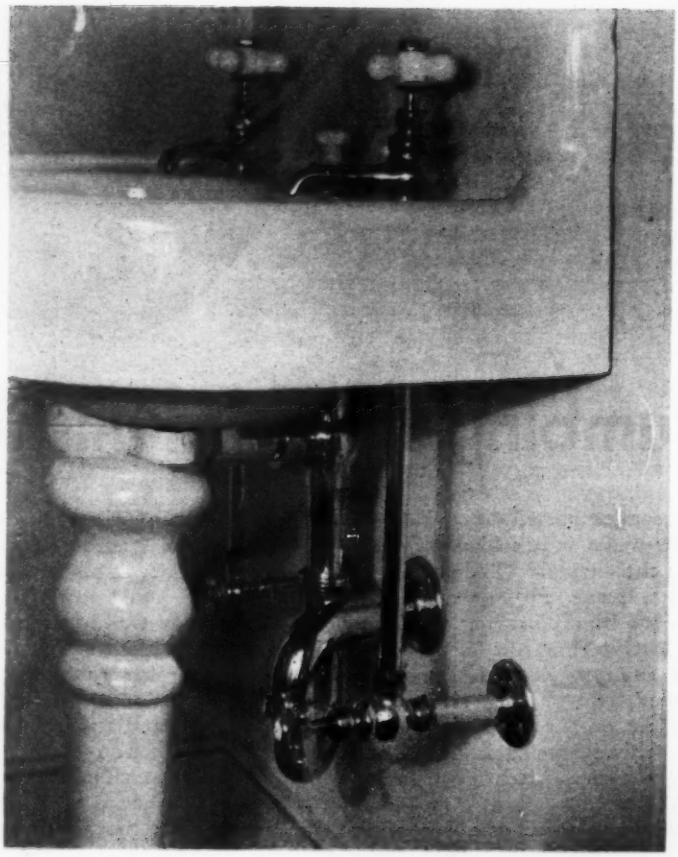
**The several fixtures shown on this page were plated with chromium in 1926 and have been in use since that time without showing wear**

even though the contractor covered the tub with paper in an effort to protect it.

When a contractor receives a shipment of fixtures, he becomes responsible for their protection and handling until they are accepted by the owner. In fact, his obligation goes still farther than this. It is his duty to instruct the owner so as to insure their protection and good handling throughout their period of service to the owner. Information has been compiled and developed with these two thoughts in mind.

A cleaning powder or acid which may not be harmful to one of the several finishes used on fixtures may ruin completely one of the other finishes. Also, some finishes only require a periodic rubbing with a damp cloth while others may demand more extensive attention in their up-keep. Accordingly, a number of finishes are discussed in turn so as to give the reader a comprehensive understanding regarding them.

# How Chromium Is Protected



**This shows one of the first chromium plated jobs which has been in use approximately four years. Proper care has been exercised and no report of unsatisfactory wear has been received**

ABOUT four years ago, beginning in the Fall of 1926, chromium plate first began to make its appearance on plumbing goods and other household articles.

These fixtures were then distributed, and installed by plumbers who were inexperienced in the handling of chromium. The realization that fixtures had to be protected against the action of hydrochloric (muriatic) acid and the fumes thereof was not generally taken into consideration, and the cleaning of tiles in bathrooms, kitchens, etc., after the fixtures had been installed caused a great deal of damage. The removal of the chromium surface where the plating was directly on the brass left that material completely uncovered, and the corrosion resulting was immediate and unsightly. The whole situation was aggravated by the belief that a chromium surface needed no attention, and fixtures installed in new buildings were left for months with no protective covering, with no cleaning even with a wet rag, and no attention of any sort, with the result that preventable corrosion was allowed to make headway underneath the chromium covering, and not detected until the entire surface was ruined.

Obviously these conditions had to be remedied. A realization of the factors involved, and a more rational understanding of the exact nature of a chromium plated article made it possible for everyone concerned to take protective measures to safeguard the fixtures during that most crucial time—the period between their installation and their use—and to apply a coating of chromium that would stand up after the fixtures were put into use.

*Safeguards to be taken by the plumber installing the fixtures:* Care obviously should be used to prevent the marring of the chromium surface by the careless use of tools. If the plumber is installing the fixtures in a new building in which the washing down of the tiles has not yet been completed or where any masonry work is still to be done, the fixtures after being installed should be carefully covered with a protective coat of acid-free grease or vaseline, and *the tag warn-*

*ing against the use of muriatic acid should be attached to each fixture.* The plumber, for his own protection, should make sure that the tile men have been cautioned against the use of muriatic acid, and if his responsibility on the job ends with the installation of the fixtures he should insist on an inspection of the fixtures after his work is completed.

If the plumber is installing the fixtures in a completed building, particularly a private residence, the covering with grease is unnecessary, and should be eliminated, but the tag should be attached to the fixtures, and the owner of the building should be instructed that the fixtures should be wiped with a wet rag at least once a month. Chromium plated fixtures do not require polishing with any compound, or severe rubbing to maintain their brilliance, but the periodic wiping with a damp cloth is extremely beneficial, and should not be overlooked.

*Safeguards to be taken by tile men:* More chromium plated fixtures are damaged during the final stages of cleaning tile than at any other time, and practically all damage occurring at this time may be laid to the use of muriatic acid. The metal chromium is easily soluble in muriatic acid, it and sulphuric acid being virtually the only acids commonly met with which do affect it. In the past, muriatic acid has been used generally for the cleaning of tile, with no harmful effect as long as only nickel fixtures are used. When chromium fixtures are installed however, muriatic acid should be strictly avoided, and oxalic acid used instead. Oxalic acid, when warm, is effective in cleaning tile, and its use should be insisted upon when the specifications for tile cleaning are drawn up. The fact that the fixtures have been covered with a protective covering of grease by the plumber does not justify the use of muriatic acid by the tile cleaner, for this protective covering is very apt to be removed in spots. It should be particularly borne in mind that the damage to chromium fixtures by muriatic acid may be caused not only by the acid itself but also by the fumes which are bound to be present when the acid applied to the walls and floors evaporates. These fumes condense on the fixtures, and are quite as harmful as would be the direct application of acid. Care exercised by tile cleaners in keeping the acid itself away from the fixtures is not sufficient.

If chromium plated fixtures are purchased and installed along the lines outlined above there should be few subsequent complaints. Fittings bought from a reliable manufacturer, properly and carefully installed, and kept clean by periodic wiping after they are installed, will prove to be entirely satisfactory and will maintain their bright clean lustre and appearance with a minimum of care for an indefinite time. No fixtures, however well made, will withstand carelessness and abuse, or use other than that for which they were intended. If a fixture is allowed to become encrusted with an accumulation of dirt or sediment the mechanical removal of the accumulation is almost sure to scratch and mar the surface. An appreciation of the value of the chromium covering, a knowledge of those few things which will destroy it, and an understanding of the slight care that is necessary to maintain it, is all that is necessary to ensure the satisfaction of the manufacturer, the dealer and the ultimate consumer.

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**In caring for the Monel Metal sink finish, ordinary soap and water will suffice to maintain its original appearance though in cases of neglect, abrasive cleaners may be used without damage**

# Handling Monel Metal Finishes

THE growing use of nickel and nickel alloys, such as Monel Metal, in the home brings to the plumber and other craftsmen whose job it is to install equipment of this material the question of handling and cleaning. The materials being new for such applications, it is also desirable to pass on to the owners suggestion for their care in order that complete satisfaction may result.

The most common use of nickel in the home, of course, is as an alloying element of Monel Metal, used widely for kitchen sinks and other items of kitchen equipment. This metal contains approximately two-thirds nickel and one-third copper and is a natural alloy in that the two constituent elements are frequently found blended in these proportions in the native

ore. Nickel silver, another alloy but one containing a greater percentage of copper, is sometimes used for the same purpose.

Generally the care of most of the nickel alloys is the same, though the hardness of each being in direct proportion to the amount of nickel contained, Monel Metal and others of the high nickel alloys are more strongly resistant to denting and scratching.

The common practice of most fabricators is to supply sinks with a silvery, satin finish, though sometimes they are supplied in mirror-like finish, chiefly in the lighter gauges, for use in the pantry where the usage is not as severe as in the kitchen. Handling depends on the finish and the gauge used.

Monel Metal sinks of heavy gauge are for the most part made without backing because of their toughness and strength. These are difficult to dent and scratch in the satin finish. Ordinary care taken in installing them will generally suffice to prevent damage. If installed before decoration or similar work in the kitchen is completed they should be covered with heavy paper to protect the surface. Other precautions, as in the case of other materials, naturally should be taken and workmen should not be permitted to stand on them.

The lighter gauge pantry sinks obviously require more attention. These are for the most part furnished with wooden backing. Heavy articles in no case should be placed on them and they should be carefully covered with heavy protecting materials until all work has been completed.

For both the heavy gauge and the lighter gauge sinks the satin finish generally is recommended by most fabricators. Before the job is completed and the equipment turned over to the care of the owner, these can be cleaned by wiping with a damp cloth. If very dirty, ordinary household or coarser abrasive cleansers can be used without fear of damage, followed by the application of a polish, and then wiped off with whiting (powdered chalk) which removes the cloudy film of the polish and brings out the lustre of the metal. Most fabricators supply a can of recommended polish with each sink.

As indicated, some owners prefer the mirror-like finish for sinks in all gauges. Naturally these must be cleaned with care and abrasive cleansers should never be used. They should be cleaned by sprinkling first with whiting and wiping off with a damp cloth. Stains may be removed by the use of a paste polish recommended by the manufacturers followed by an application of whiting.

These nickel alloys are all highly resistant to the action of fruit juices and other food acids. Some products, however, such as lemon and milk, if left on them for an unusually long period, may cause a dark spot to appear. This can be removed readily by the methods previously suggested for each kind of surface. Generally the instructions followed by the plumber while the equipment is still his responsibility should be passed on to the owner after the installation is completed, with perhaps an added word of caution in reference to the placing of heavy materials on the light gauge sinks and the use of abrasives on the mirror finish. Heavy gauge sinks, especially those with the satin finish, can be kept in their original condition and attractive appearance easily by the housewife. With ordinary attention they will retain their beauty indefinitely.

## Precautions Applying to Stainless Steel

THE following precautions applying to stainless steel in the form of sheets are sufficiently general to be of use when handling this substance in other forms.

The polished side of the sheet should be protected against building dirt such as cement, mortar, lime and plaster. There are several ways of doing this. First, the sheet may be lacquered with the lacquer having approximately one to two years weather life. A lacquer which whitens in the weather should, of course, not be used. After the building is completed the lacquer can either be removed by the use of a thinner or may be allowed to weather away.

Where there is little possibility of the sheets being exposed to the accumulation of foreign material for any length of time, a thin coating of paraffin may be applied, but this would necessarily be confined to sheets which are on the tops or towers of buildings and away from the possibility of close inspection.

When material is fabricated in the plant and comes in contact with steel dies, some means should be taken to remove the possible abraded film of iron. This should be done either by polishing or buffing or by passivating in a solution of twenty to thirty per cent nitric acid at 130 deg. Fahr. for thirty minutes.

Never use cleaners or buffing compounds which contain iron. This, of course, eliminates the use of steel wool. Jewelers rouge, which contains iron oxide, should not be used for buffing, but a compound containing chrome oxide or aluminum oxide would be satisfactory.

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## Acceptors of Simplified Practice Recommendation Now Aggregate More Than 10,000

"More than 10,000 different associations and firms are now listed by the division of simplified practice of the National Bureau of Standards as acceptors to simplified practice recommendations," according to Edwin W. Ely, chief of that division.

There are now in effect over 120 simplified practice recommendations, and the total number of acceptances to all recommendations number nearly 30,000.

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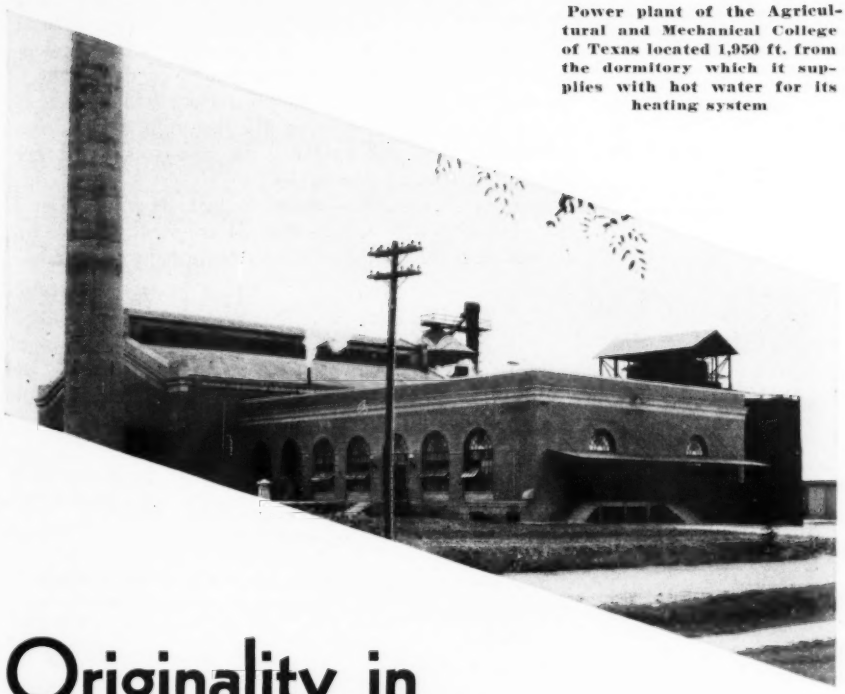
## Heating Troubles

A report of the work of the Anthracite Coal Service showed that 2,620 calls had been made by engineers of the Anthracite Service during a recent period. These calls revealed that the troubles were due to the following causes: 21 cases of smoke coming through walls and floors due to chimney cracks; 62 to chimneys of incorrect height; 14 to chimneys of incorrect size; 560 check dampers were either omitted, improperly installed or improperly operated; 492 turn-dampers with similar troubles; 15 were due to inadequate heating plants; 33 to worn-out equipment; 10 to warped and 5 to broken grates; 1,564 to draft leaks around smoke pipes, etc.; 486 to chimney leaks through displaced mortar and too many smoke pipe holes; 1,472 leaks around clean-out, ash pit and fire doors; 81 leaks between boiler sections; 33 boiler settings; 178 smoke-pipe leaks; 191 holes in smoke-pipe; 19 cracked fire-pots. In many instances, of course, the troubles were due to two or more of these defects.



**Power plant of the Agricultural and Mechanical College of Texas located 1,950 ft. from the dormitory which it supplies with hot water for its heating system**

# Originality in Piping Scheme *for* . . . . .

## Forced Circulation Gravity Circulation with Reversed Returns

By F. E. GIESECKE

*By balancing the friction losses through the various circuits of a hot water heating system, the proper amount of hot water will be supplied to each radiator and the success of the installation assured. Frequently, orifices are used to assist in this procedure; the selection of the proper pipe sizes is, of course, of paramount importance.*

*Professor Giesecke needs no introduction as an expert in designing hot water heating systems. In this article he explains the design of the piping for the heating system in a college dormitory of four floors. As the method is explained in detail, it may be applied with success to your own jobs.*

HART HALL, is a dormitory for cadets at the Texas A. & M. College and has 148 rooms. It is located about 1,950 ft. from the power house, shown in the photograph at the top of this page, where the water is heated and from where it is pumped by ordinary centrifugal pumps to the nine College buildings heated by means of hot water.

The hot water has a velocity of 3.7 ft. per second in the flow main and requires about nine minutes to flow from the power house to Hart hall. The flow main is well insulated and the water cools only about two degrees in flowing from the power house to Hart hall.

The temperature of the water supplied to Hart hall is regulated as accurately as possible, so that it will supply the same quantity of heat to the building which the building loses to the outside in a given period of time.

To accomplish this regulation, the following table was prepared to guide the operating engineer at the power plant:

**Table 1**

**Table of Water Temperatures for Varying Outdoor Temperatures**

| Outdoor | Temperature Supplied to Building |
|---|---|
| 25 deg. | 190 deg. |
| 30 | 183 |
| 40 | 159 |
| 50 | 135 |
| 60 | 111 |
| 65 | 99 |

The method of heating water at the power plant is illustrated in Fig. 1. The water is heated by means of exhaust steam or extracted steam as it passes through the heater.

It is difficult to vary the temperature of the water in the heater at will, and, for that reason, it is difficult to supply water accurately at the several temperatures shown in Table 1.

In order to regulate the water temperature accurately, the arrangement shown in Fig. 1 should be modified as shown in Fig. 2.

By regulating valves 1 and 2, any desired portion of the water leaving the circulating pump can be passed

through the heater and the remainder passed by the heater.

If then, the water in the heater is maintained at the maximum temperature, $T_2$, that may be required during a given period of time, the temperature $T_3$ of the water supplied the building can be readily adjusted to any value from $T_1$, the temperature of the water returning from the building, to $T_2$, the temperature of the water in the heater.

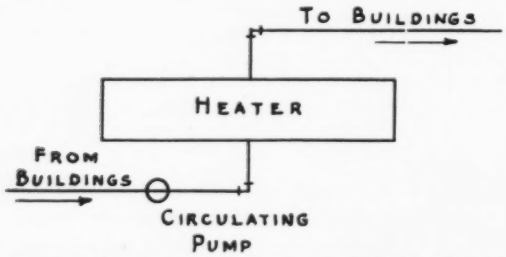



**Diagram of the present method of heating water at the power plant shown in the photograph on the preceding page**

Without the arrangement suggested by Fig. 2, it is practically impossible to control the temperature of the water supplied to the building with sufficient accuracy. This is indicated in Fig. 3, which shows the temperature records for Hart hall for the period from midnight January 9, 1931, to midnight January 12, 1931. The lower heavy line shows the outdoor temperature; the upper heavy line shows the temperature at which the water should have been supplied to the building according to Table 1. The upper dashed line shows the temperature at which the water was supplied to the building, and the lower dashed line shows the temperature at which the water left the building. The dotted line shows the temperature of the air in one of the rooms on the north side of the upper floor of Hart hall.

An examination of the dotted line shows that the students opened their windows about midnight and closed them about six a. m. During the period when the windows were open, the temperature of the room air fell to about 60 deg. Fahr. and a short time after the windows had been closed it rose to 70 or 75 deg. Fahr. and remained at that temperature until the windows were again opened for the night.

The hot water was supplied to Hart hall through a new 4-in. pipe which was equipped with piezometer connections so that the velocity of the water in the 4-in. pipe could be ascertained. Knowing the velocity of the water in the 4-in. pipe (about 3.7 ft. per second), and the cooling of the water while passing through the building (about 15 degrees—the difference shown by the two dashed lines of Fig. 3), the quantity of heat supplied the building could be easily calculated. It was found to be 37,300 Btu. per degree-hour. Since there were 84,141 degree-hours from October 1 to May 1 (mean temperature about 58 deg. Fahr.), at College Station, Texas (the degree-hours being calculated from the outdoor temperatures to 75 deg. Fahr.), the total quantity of heat supplied Hart hall was 3,140 million Btu., and the cost, at 30c per million Btu., was $942.00, or for 292 students the cost was $3.22 per student per heating season.

A study of a record similar to that shown in Fig. 3 and extending over a period of 31 consecutive days indicated that the cost could have been reduced to $2.57 per student if the heater in the power plant had been piped as suggested in Fig. 5, and if the temperature of the water supplied the building had followed accurately the upper full line in Fig. 3.

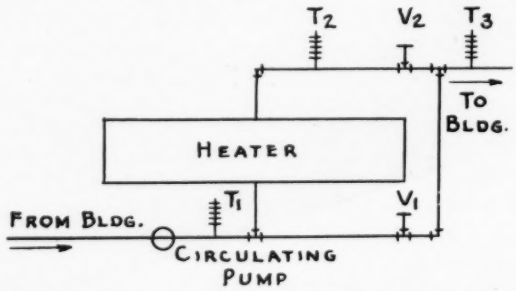



**Fig. 2—Sketch of modifications of Fig. 1 which would permit the accurate regulation of water temperatures**

The cost of pumping the water to and from the building to be heated must be added to the cost of heating in order to secure the total cost of operating a forced circulation system.

In the case under consideration, the cost of pumping the water was about six per cent of the total cost of heating and, consequently, the cost of heating should be increased from $3.22 to $3.41 per student per year for the year 1930-1931.

The cost of pumping the water in a heating system can be materially varied by varying the velocity of the water in the flow mains. This velocity may be varied by varying the size of the flow mains and also by varying the temperature drop through the building.

For example, for a given size main the temperature drop through the building may be 10

**Hart Hall, a dormitory at the Texas A. and M. College**

deg. Fahr. or it may be 30 deg. Fahr. That is, if, for a certain outdoor temperature, the average temperature of the water should be 170 deg. Fahr., the water may enter the building at 175 deg. Fahr. and leave at 165 deg. Fahr., or it may enter at 185 deg. Fahr. and leave at 155 deg. Fahr.

This variation in temperature drop through the building may be produced by varying the setting of the valves in the flow mains.

If the temperature drop through the building is 10 degrees instead of 30 degrees, the velocity of the water in the mains will be three times as high and the friction head and the cost of pumping nearly nine times as great.

Many persons who have had no experience with a central forced hot water heating system believe that such a system cannot be adapted to so-called sudden changes in temperature.

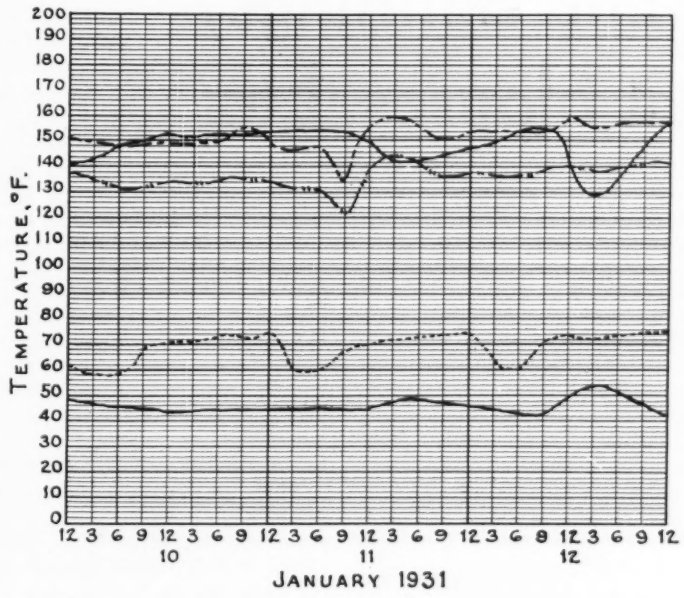



**Fig. 3—Temperature curves for Hart Hall from midnight January 10, to midnight January 12, 1931. This set of curves show that a central forced hot water heating system can be adapted to so-called sudden temperature changes**

A little study will show that this notion has no foundation in fact. For example, examine Fig. 3 and assume that at three p. m. the temperature dropped from 54 to 30 deg. Fahr. in one hour, instead of from 54 to 42 deg. Fahr. in nine hours, it will then be necessary for the engineer to adjust valves 1 and 2 of Fig. 2 so that the water is supplied to Hart hall at 183 deg. Fahr. instead of at 128 deg. Fahr. The engineer should be able to adjust these valves in five minutes and the water requires about nine minutes to flow from the power house to Hart hall, so the adjustment could be accomplished in fourteen minutes, whereas, it took nine hours to lower the outdoor temperature and would require a considerably longer time to lower the indoor temperature because of the time lag in the cooling of the building's massive structure. It is evident, therefore, that the engineer can very easily adjust the heating system to any sudden changes in temperature, in fact, it is almost as simple for him to tune the heating system from a high outdoor temperature to a low outdoor temperature or from a low outdoor temperature to a high outdoor temperature as it is to tune a radio from a long wave length to a short wave length, or from a short wave length to a long wave length.

In the best possible installations, valves 1 and 2 of Fig. 2 should be operated thermostatically by the outdoor temperature. In that event, the engineer need only see that the thermostatic equipment functions correctly.

### Explanation of the Design of the System

The heating system is a combined forced and gravity circulation reversed return water system with supply and return mains located underneath the first floor and with 39 sets of flow and return risers.

The mains are located so that they form two separate and distinct circuits, one having a length of about 340 feet and 17 sets of risers and shown in Fig. 5, and the other having a length of about 390 feet and 22 sets of risers. The two circuits are connected to the main flow and return line near the center of the building.

The two circuits were designed as described below for the shorter one, shown in Fig. 5, which supplies the water to 17 sets of risers and to 67 radiators.

The pressure head which causes the water to flow through the several radiators is produced partly by a circulating pump located in the power house, about 3,600 feet from the building, and partly by the difference in the weight of the water in the flow and return risers.

### Identifying the Radiators

The risers are numbered consecutively from *1* to *17* and the radiators served by the risers are designated by the corresponding riser numbers with the addition of the letters *a, b, c,* and *d,* representing, respectively, the first, second, third, and fourth floors; thus, Radiator *15c* is the third floor radiator served by Riser *15*.

### The Problem in Design

A reversed return system of piping is a two-pipe system; i. e., a system in which the water flows through one radiator only before it returns to the central plant to be reheated.

The circuit under consideration supplies water to 67 radiators and hence the water which enters the circuit may follow any one of 67 paths. The problem is to design this system so that the water will distribute itself among the 67 paths

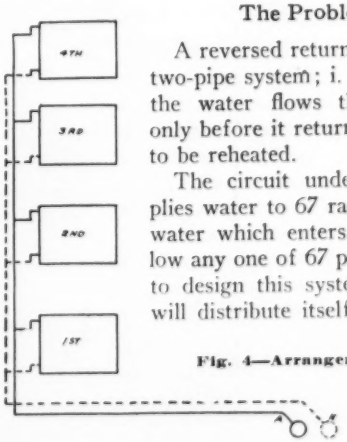



**Fig. 4—Arrangement of Radiators**

so that each of the 67 radiators will receive its correct share of hot water. Considerable latitude exists for the selection of the pipe sizes for the mains and for the

(Continued on Page 61)

# Refrigeration Lines *in* Apartment Buildings, Tenement Houses, Etc.

By R. M. STARBUCK

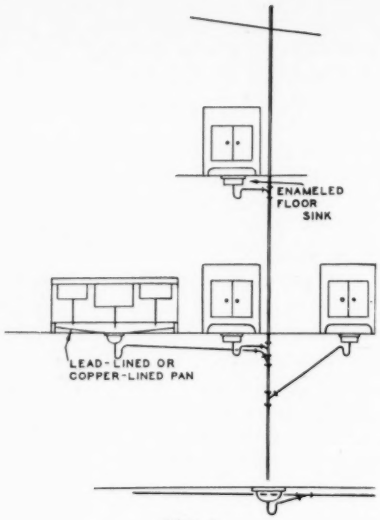


Fig. 1

IN A previous article we dealt with several phases of this subject, and in this article we shall continue the discussion of other phases. All of the illustrations shown have been taken from pilot drawings illustrating the plumbing practices of various cities. These pilot drawings are a prolific source of information relating to refrigerator waste connections.

One important southern city demands the use under each refrigerator of an enameled floor sink, into which the refrigerator drips. This practice is shown in Fig. 1. The same city calls for the use in connection with soda fountain bars, of a lead-lined or copper-lined pan running the entire length of the bar, into which the wastes from the several sinks and drains discharge. The sides of this pan pitch to the center, into a floor drain. This method does not appeal to us, for it seems that even if fairly well cared for, such a pan presents abundant opportunity for fouling, with the attendant disagreeable odors.

Fig. 2 shows some interesting features. Under each refrigerator a drain trap is set, the waste dripping directly into the trap. Here the soda fountain sink wastes drip into a sand trap set flush with the floor. It will be noted that in this layout, while the refrigerators have an indirect connection, the soda fountain bar is required to have a direct waste connection.

Although the soda fountain has to handle food and drink, and therefore needs to be kept as free as possible from the chance of contamination, it is much safer to use a direct waste connection for the soda fountain bar than for the refrigerator. This is principally for the reason that the soda fountain bar, being in commercial use, is not subject to long periods of disuse, and therefore not subject to the danger of loss of trap seals with consequent direct communication with the drainage and sewer lines. Many plumbing codes allow either direct or indirect connection for soda fountain bars.

In Fig. 3 is shown a different use of the drain trap on refrigerator work. The ordinance governing refrig-

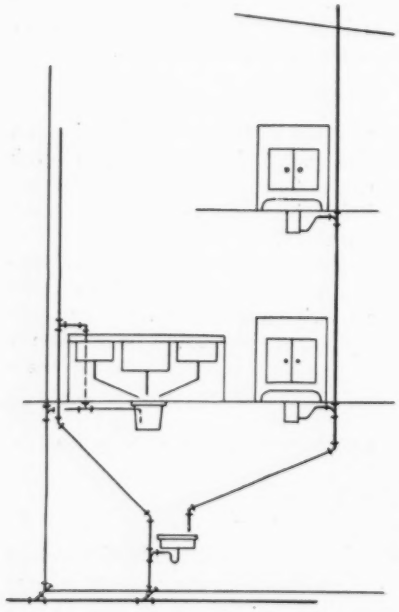


Fig. 2

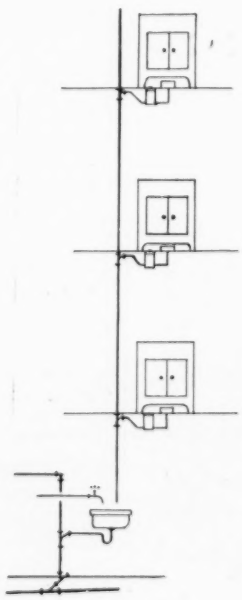


Fig. 3

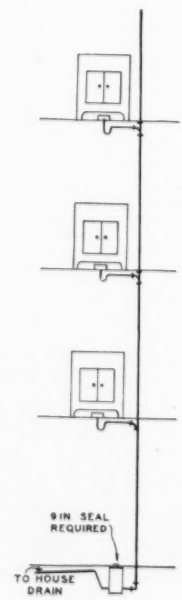


Fig. 4

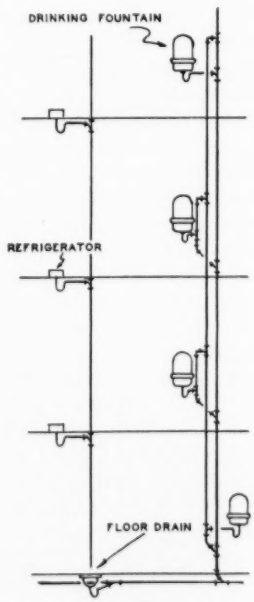


Fig. 5

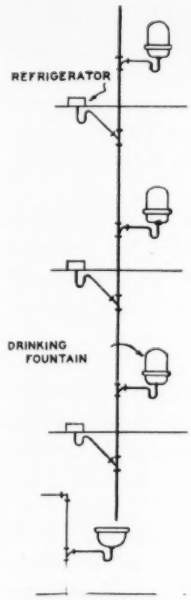



Fig. 6

erator wastes for the city, which follows the method shown in Fig. 3, is the following: "Refrigerator wastes shall discharge into a water-supplied sink or water-supplied floor drain, and be disconnected from the refrigerator by at least 4 in. Where refrigerators are on two or more floors, the waste line shall be carried through the roof, the same not to open within 6 ft. of any open soil or waste pipe. Size of refrigerator waste for two floors or less, 1½ in.; 2-in. for 3 to 5 floors, and 2½-in. for more than 5 floors. Each refrigerator shall have a 4-in. by 8-in. drum trap."

We do not know that we have seen any other plumbing code which takes the precaution of prohibiting the passage through the roof of a refrigerator stack in close proximity to a soil or waste stack. We think this a wise provision.

Still another use of the drum trap for refrigerator work is seen in Fig. 4. This is a most unusual practice, one which seems to us to have no points in its favor, but which nevertheless is to be found illustrated on the pilot drawing of one of the southwestern cities. It will be seen that Fig. 4 shows the refrigerator line directly connected with the drainage system, and this of course is as far from correct practice as it is possible to get.

The use of the drum trap at the foot of the refrigerator stack provides a serious obstruction, in our opinion. The trap, even with such a depth of seal as 9 in., is sure to become clogged, with resultant stoppage of trap and connections. With no cleaning facilities, we would imagine the stoppage of the underground line from the drum trap to the house drain would be a foregone conclusion. We do not much believe in the use of connections which depend for their free action upon flushing operations, for the latter depends upon human attention, and that is something that is seldom dependable.

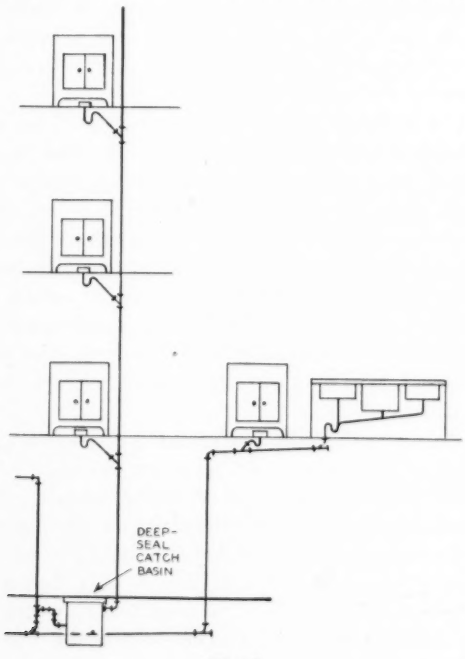



Fig. 7

Closely connected with refrigerator work there are two other important considerations — the drinking fountain and the soda fountain bar.

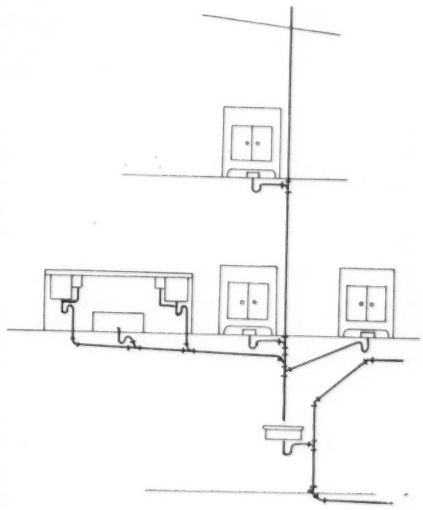


Fig. 8

Probably a majority of plumbing codes allow drinking fountains to have either a direct or an indirect waste connection.

Fig. 5 shows the line of drinking fountains connected up in the same manner as a line of lavatories or sinks, with each fixture trapped and vented. The same layout shows the refrigerators on a separate indirect waste line.

Inasmuch as the drinking fountain is often allowed to have indirect waste connections, there would then generally be no objection to connecting refrigerators and drinking fountains into the same stack. See Fig. 6.

There is as wide a variation in the practice relating to soda fountain bar wastes as there is in refrigerator wastes, and in the illustrations which follow we shall show some of those that have come to our attention, in connection with refrigerator connections, as found in pilot drawings.

Fig. 7 shows a contradictory sort of layout, taken from a pilot drawing which was drawn under the following ordinance: "Bar sinks, refrigerators, etc., in any building must connect indirectly to a deep catch basin properly trapped and vented, or with a vented deep-seal trap." The contradiction that we mention is the fact that while the line of refrigerators has an indirect connection, the single refrigerator is directly connected.

The method of connecting the soda fountain bar here shown is one that is often used.

(Continued on Page 135)

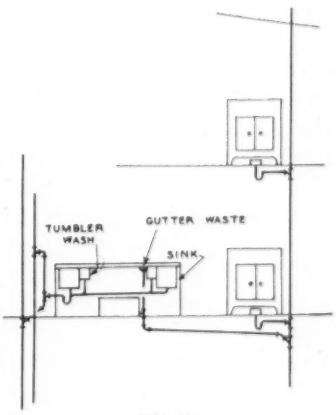



Fig. 9

# Editorials

## Gas Company Co-operation

IF NOTHING else had come out of the national convention in Milwaukee last month, the presence there of a representative of the American Gas Association, and his remarks, would be sufficient to mark it as an occasion of the greatest importance to the master plumbers of the United States.

The position of DOMESTIC ENGINEERING on this question of utility merchandising has been this: No amount of waving of arms, no amount of sympathetic but empty agreement with the difficulties faced by the master plumbers, would be sufficient to go to the heart of the problem. We argued, and from the facts we have been able to gather, it would seem that we argued rightly, that there was a reasonable and practical solution—and that that solution did not necessarily lie in the direction of prohibitory legislation. If the utility companies, in those states where there are laws which say that the utilities may not sell merchandise, were to set up dummy corporations for this purpose, it would not be the first time in American business history that this practice was resorted to.

All business agreements, if they are to last, must carry a benefit for both parties to them. Looking at the utilities situation realistically, it is possible to see just what advantage the utilities seek in their new approach to the master plumber—and the advantage to the master plumber is, of course, obvious. He gets back a chance at what was once his big market—the sale and installation of gas appliances. He regains unnumbered consumer contacts, which means opportunity to make an increasing number of sales of other things besides gas appliances.

On the part of the member companies of the American Gas Association, the advantages will be, in the first place, a probable dying out of interest in the legislation prohibiting the sale of merchandise by the utilities. That movement has reached rather large proportions; it meant unfavorable publicity—it meant giving politicians and a certain type of newspaper a chance to make capital out of the situation. The other possible advantage has nothing to do directly with the plumbing field. The lines are being drawn in Washington for a fight on power, and the utilities will want as much friendly feeling in the country as possible.

There is no need to think radically about these things. If the utilities gain certain advantages, in return for certain advantages granted the trade, then there has been nothing more than a good business arrangement made.

As one master plumber, who has had a great deal of experience in working with the utilities, said on the floor of the convention, "You can't fight the utilities." A fight is always a costly procedure. Prohibitory legislation will be subject to court decisions; and in every legislative session following its passage it will be necessary to wage a steady fight to keep it on the books.

It is far better to arrange a basis of co-operation, such as the national administration which has just gone out of office has secured, than to enter into a long and expensive fight, the outcome of which is not at all certain.

There are millions of dollars of potential business in gas appliances for the master plumber under the present arrangement. In this issue, a separate article treats of the situation as it developed at the national convention. The method of procedure is simple, and is explained in that article.

It is to be hoped that the necessary committees will get to work in every city in the country, so that within a few months the master plumber of the United States may enjoy the reopening of this market to him. It's a profitable one, and will help to make up for some of the slack in new building.

## "Remodel Now"

SINCE the announcement, several weeks ago, of its first window poster featuring the slogan, "The Difference Between an Old House and a New One Is Plumbing," DOMESTIC ENGINEERING has distributed more than 18,000 of these posters to plumbing equipment manufacturers, jobbers and contractors all over the country. These posters are being displayed in contractors' windows, on their trucks and in their stores. Wholesalers are giving them similar prominence and manufacturers are featuring the slogan in their advertising.

It is a timely slogan, the outgrowth of an actual experience with an apartment in Chicago that, in every respect, was modern, despite its ten or twelve years, except when one stepped into the bathroom and kitchen. Similar apartments and homes everywhere are never going to get younger. Their plumbing does not improve in appearance with age. Their owners have sizeable investments in them and it is only good sense to protect that investment by giving prospective buyers or tenants what they want and expect in every room in the house.

When new building again begins to step up, these homes and apartments will go more and more into the "white elephant" class. Now is the time to improve them, to modernize the plumbing, to put them back in the competition for renting and selling. Old apartments are hard to rent now because they do not have modern plumbing. They'll be even harder to rent when new building competition takes hold again. Get this point across to home and apartment owners now.

# PLUMBING & HEATING MERCHANDISING

## Time Payments Sell Remodeling

Canvassers . . . . Salesmen . . . . Newspaper Advertising . . . Sales Letters and a good file of prospects . . . . inducements to old customers . . . . and a checking system that tells where inquiries come from . . . . these form the very complete selling plans of this successful firm

*The view of the "House of Warner" from the sidewalk*

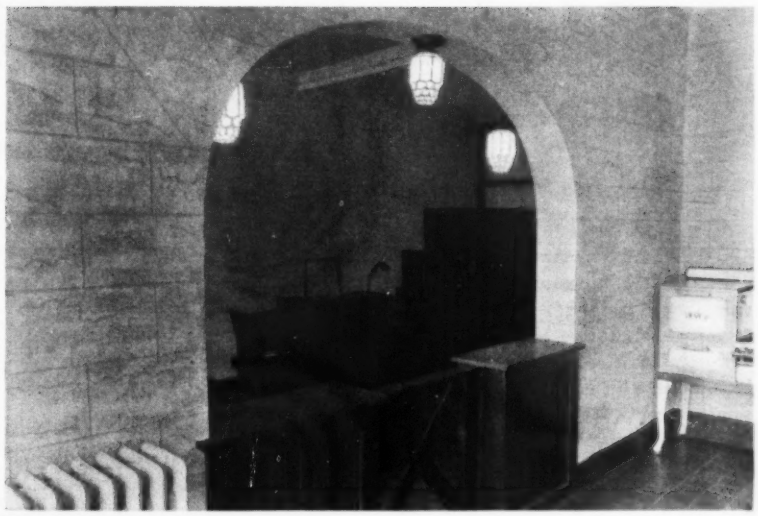
# Time Payments Sell Remodeling

Here is a firm that has worked out a merchandising and advertising plan that would be a credit to a company having national distribution. Good use is made of productive forms of advertising, of salesmen, of satisfied customers. We have illustrated this article fully for the convenience of our readers

COMBINING the appeal of remodeling with the modern convenience of a sound time payment plan, H. H. Warner & Co., of 3957 Grand River Ave., Detroit, Mich., have set the remarkable record of one time payment sale a day over the last three years.

The firm was established seven years ago, and in the last five years has concentrated on this combination of a modern selling appeal and the idea of convenient payment terms. The plan under which the company operates is a sound one. All paper is signed by the company when it is turned over to the finance company. This is the soundest practice because it means that the finance company is not accepting time payment paper from contractors whose credit is not good. Where the time payment notes are endorsed by the contractor, it means that the job has been sold right—it means that the credit of both customer and contractor is good. Otherwise, any contractor, no matter how weak financially, can handle any job.

*A very pleasing effect is given by the arched entrance into the office from the show room*



### Consistent Selling

In setting the remarkable record of one time payment sale a day over the last three years, a consistent sales plan has been followed. Business has been secured by men who make a house-to-house canvass. Armed with a card carrying a list of questions, the representative approaches the owner. Where no sale has been made, the card is turned in to the office and the name is placed on the prospect list, from then on to be followed up closely in accordance with whatever equipment may be in need of replacement. The firm has a mailing list of eighteen hundred customers and of twenty-five hundred prospects.

Direct-mail has been selected because the firm feels that there is the least waste in advertising effort. Other means have not been neglected, of course. According to the season of the year, a schedule calling for quarter-pages in the

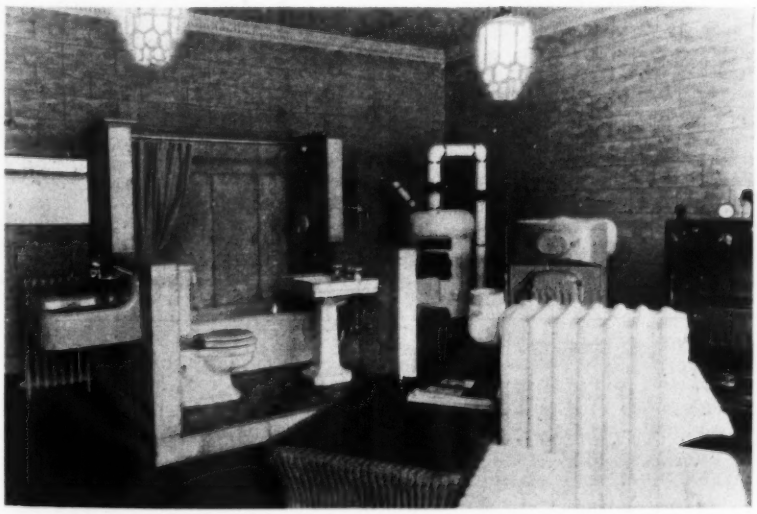
(*This statement appears in the portfolio carried by salesmen*)

"Starting in a small way, the H. H. Warner Company has built its business upon a platform of satisfied customers. Nothing is more graitfying than to have our old customers send us new ones. This has been the method thru which the H. H. Warner & Company has steadily increased its business year after year, until now we can count thousands of satisfied customers and boosters for the Warner service.

"Your satisfaction is our chief aim. This spirit of interest in the satisfaction of our customers is reflected throughout our organization. It is a spirit of which we are justifiably proud. It is the spirit that gives the house of Warner its reputation, and it has been largely responsible for our great success.

Sincerely yours,

H. H. WARNER & COMPANY
H. H. Warner,
President."



*Making it easy—and desirable—for the customer to get acquainted with the products handled by the Warner store*

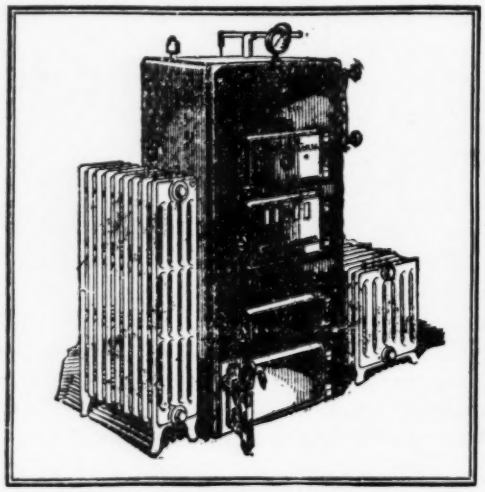
# Modernize your Heating System... *IT PAYS!*

**You can enjoy modern heating comfort and have two years to pay. You save in fuel and doctor bills.**

HOT air furnaces and old fashioned heating apparatus are not only unsatisfactory, they are extravagant. Just like old fashioned automobiles. Great progress has brought new standards of heating comfort and to be without a modern steam or hot water heating system is really an extravagance.

## Increases Values

It pays to modernize your heating in more ways than one. Not only do you save in fuel and doctor bills, but it will add two or three times its cost to the value of the property.



## Low Cost

You will be surprised how little modern radiator heating will cost. Never before have we been able to install such fine products at the low prices we now quote. And never before could you buy such comfort for so little.

## 2 Years to Pay

We can replace that hot air furnace or old fashioned heating apparatus for only $25.00 down and two whole years in which to pay the balance. Your present heating arrangement would not have to be disturbed. We do this work in old homes without breaking the plaster or disturbing the building in any way.

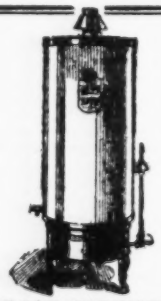
## Special Offer

To encourage readers of the Detroit Tribune to Modernize their heating we have arranged the following special offer:

## $35.00 For Your Old Hot Air Furnace

**if you mail the coupon before April 1st.**

To anyone mailing in the attached coupon before April 1st, we will allow a credit of $35.00 on the installation of a modern steam or hot water heating system. You can now begin to enjoy modern heating immediately, have two years to pay for same and save as you pay. Act at once. Our engineers are at your service day or night.



HOT COIL GAS WATER HEATER
gives constant hot water day or night for every purpose. Low in cost, economical in gas. A wonderful addition to home comfort. Price $60. Installation extra.

### Plumbing Department

We have a seperate department for the installation of plumbing—bathrooms—hot water heaters, etc. — Monthly payments of course.

CAdillac 3311

**H. H. WARNER & CO.**

"ONE OF AMERICA'S FOREMOST HEATING CONTRACTORS"

226 W. LARNED ST.

MAIL THIS COUPON

H. H. WARNER & CO.
226 W. LARNED ST.

Without obligating myself kindly have your representative call to give me estimate on the following:
Heating ☐ Plumbing ☐
Hot water heater ☐

*Name* .....

*Address* .....

*Please Call* .....

..... at .....
*(A. M. — P. M.)*

3-14-29

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Detroit English and foreign-language papers is carried out. In the late summer and early fall, for example, advertisements on heating equipment are run every day.

The firm has standardized on well-known lines of merchandise. Literature furnished by the manufacturers is used constantly, something over three hundred thousand pieces of printed matter going out from this shop every year.

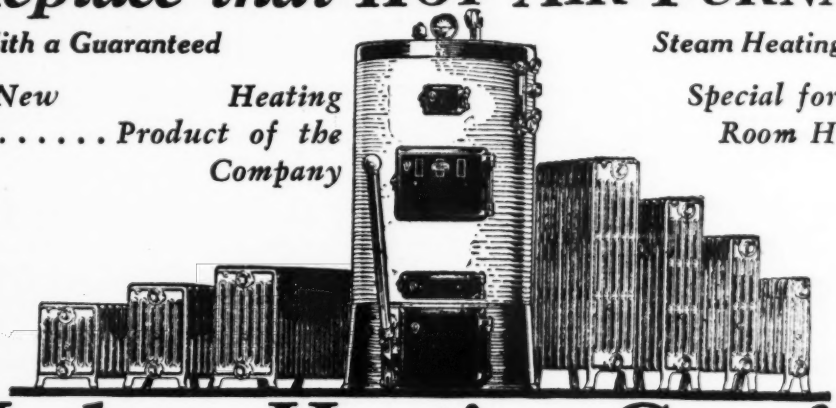
*One of the commanding newspaper advertisements used by this contracting firm. Note the headline on modernization—timely copy*

# *Replace that HOT AIR FURNACE*

*With a Guaranteed* *Steam Heating Plant*

*The New Heating Unit . . . . . Product of the Company*

*Special for 5 to 8 Room Homes*



# Modern Heating Comfort

## *At New Low Cost—2 YEARS TO PAY*

### Low Cost

**You will be surprised how little modern radiator heating will cost. Never before have we been able to install such fine products at the low prices we now quote. And never before could you buy such comfort for so little.**

### 2 Years to Pay

**When we replace that hot air furnace or old fashioned heating apparatus for only $25.00 down and two whole years in which to pay the balance. Your present heating arrangement would not have to be disturbed. We do this work in old homes without breaking the plaster or disturbing the building in any way.**

### $35.00 Allowance

### For Your Old Hot Air Furnace

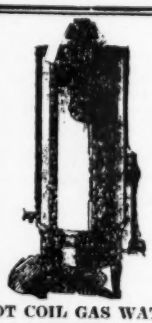
*If You Mail The Coupon Before April 1st,*

**To anyone mailing in the attached coupon before April 1st, we will allow a credit of $35.00, on the installation of a modern steam or hot water heating system. Act at once. Our engineers are at your service and will be glad to call at any time, without obligation.**

**Hot air furnaces and old fashioned heating apparatus are not only unsatisfactory, they are extravagant. Just like old fashioned automobiles. Great progress has brought new standards of heating comfort and to be without a modern steam or hot water heating system is really an extravagance.**

### Increases Values

**It pays to modernize your heating in more ways than one. Not only do you save in fuel and doctor bills, but it will add two or three times its cost to the value of the property.**



**HOT COIL GAS WATER HEATER**
**gives constant hot water day or night for every purpose. Low in cost, economical in gas. A wonderful addition to home comfort. Price $60. Installation extra.**

### PLUMBING DEPT.

**We have a seperate department for the installation of plumbing, bathrooms, hot water heaters, etc. Get our prices before having any work done. Estimates free—2 YEARS TO PAY IF DESIRED.**

**CAdillac 3311**

# H. H. WARNER & CO.

*"MICHIGAN'S LARGEST ARCOLA DEALERS"*
*SPECIALIZING IN OLD HOUSE HEATING*

**226 W. LARNED ST.**

**MAIL THIS COUPON**

H. H. WARNER & CO.
226 W. LARNED ST.

Without obligating myself kindly have your representative call to give me estimate on the following:
Heating ☐ Plumbing ☐
Hot water heater ☐

*Name* .....

*Address* .....

*Please Call* .....

..... at .....

*(A. M.—P.M.—*

3-21-29

*Another of the advertisements that dominate the page in which they appear. This one goes after the warm air furnace—with time payments*

The process of selling a job is this: The canvassers, wherever possible, make appointments for men who are qualified to estimate and close the sale. Each of the salesmen has a sales kit with photographs of work done for other customers and with testimonial let-

*One of the fine sales letters that have done much to keep business active. Others follow*

**H. H. WARNER & CO.**
PLUMBING & HEATING CONTRACTORS
216 WEST LARNED STREET
DETROIT, MICH.

Dear Sir:-

We are again offering you the opportunity of enjoying the wonderful benefits of radiator heating at the lowest prices ever quoted for Steam, Hot Water or ( ) heating installations.

Why shiver thru another winter? We have made our prices so attractive that it will pay you to consider having your work done NOW, before the big rush of the heating season starts. As a further inducement we have arranged to repeat our sensational offer of last spring, allowing you

$25.00 FOR YOUR OLD STOVE OR BASE-BURNER.

During the month of April only, we will allow you a credit of Twenty-five ($25.00) Dollars for your old stove or base-burner, no matter what its condition, same to apply on the installation of a modern heating plant. Your present heating arrangements will not have to be disturbed while the work is in progress.

You do not need cash to get started. Our convenient "Pay-out-of-income" plan with its small monthly payments will soon pay for this work, besides increasing the value of your property.

Return the enclosed card at once. Our engineer will be glad to call, giving you his valued advice and submitting an estimate without obligating you.

Trusting to be of service to you in the near future, we are

Yours very truly,
H. H. WARNER & COMPANY
By H. H. Warner

HHW:F

ters from satisfied customers.

As soon as a job is sold it is given a job number, with complete instructions. A superintendent keeps in touch with each job, watching the details of the installation and so assuring the customer of a satisfactory job.

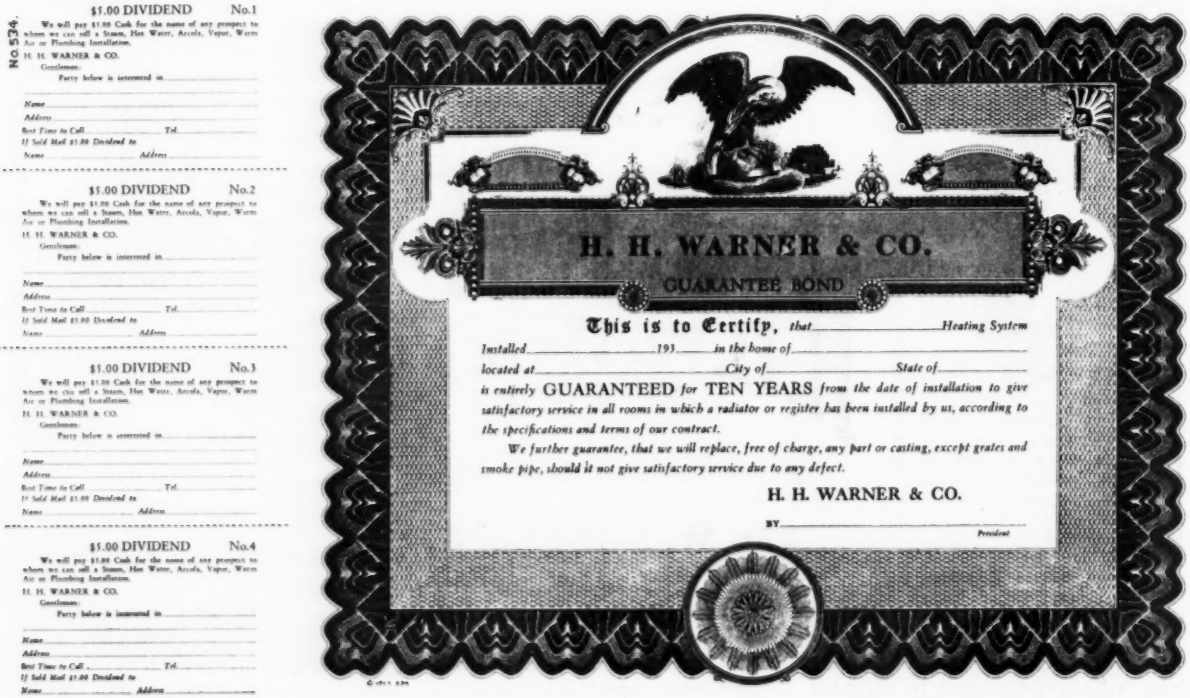
It is interesting to note that in the past five years, since the firm has concentrated its efforts on remodeling and time payment selling, it has moved three times and in each instance it has been necessary to secure larger quarters—sufficient proof of the growth brought by a carefully considered selling program.

### Choosing the Salesmen

M. H. Prince, of the Warner Company, has the following to say about their selling methods:

"We would rather use men for canvassing who have had no experience in selling. We place a want ad in the paper for canvassers, out of which we would pick eight men every Monday morning and start them at $12 for the first week. The

*The guarantee bond—note the "dividend" coupons for leads*



$1.00 DIVIDEND No.1
No. 534
We will pay $1.00 Cash for the name of any prospect to whom we can sell a Steam, Hot Water, Arcola, Vapor, Warm Air or Plumbing Installation.
H. H. WARNER & CO.
Gentlemen:
Party below is interested in
Name
Address
Best Time to Call Tel.
If Sold Mail $1.00 Dividend to
Name Address

$1.00 DIVIDEND No.2
We will pay $1.00 Cash for the name of any prospect to whom we can sell a Steam, Hot Water, Arcola, Vapor, Warm Air or Plumbing Installation.
H. H. WARNER & CO.
Gentlemen:
Party below is interested in
Name
Address
Best Time to Call Tel.
If Sold Mail $1.00 Dividend to
Name Address

$1.00 DIVIDEND No.3
We will pay $1.00 Cash for the name of any prospect to whom we can sell a Steam, Hot Water, Arcola, Vapor, Warm Air or Plumbing Installation.
H. H. WARNER & CO.
Gentlemen:
Party below is interested in
Name
Address
Best Time to Call Tel.
If Sold Mail $1.00 Dividend to
Name Address

$1.00 DIVIDEND No.4
We will pay $1.00 Cash for the name of any prospect to whom we can sell a Steam, Hot Water, Arcola, Vapor, Warm Air or Plumbing Installation.
H. H. WARNER & CO.
Gentlemen:
Party below is interested in
Name
Address
Best Time to Call Tel.
If Sold Mail $1.00 Dividend to
Name Address

H. H. WARNER & CO.
GUARANTEE BOND

This is to Certify, that Heating System
Installed 193 in the home of
located at City of State of
is entirely GUARANTEED for TEN YEARS from the date of installation to give satisfactory service in all rooms in which a radiator or register has been installed by us, according to the specifications and terms of our contract.

We further guarantee, that we will replace, free of charge, any part or casting, except grates and smoke pipe, should it not give satisfactory service due to any defect.

H. H. WARNER & CO.
BY
President

**H. H. WARNER & CO.**
PLUMBING & HEATING CONTRACTORS
216 WEST LARNED STREET
DETROIT, MICH.

Dear Sir:-

We are writing regarding your plumbing and heating requirements which will be necessary in the alterations you intend to make.

Before having any work done, let our representative call and inspect your premises. Through our recommendations we have, on many occasions saved the home owner considerable money and in many cases have installed an extra toilet or bathroom without the added expense of remodeling. This information is available to you without any charges.

We specialize in the installation of Plumbing and Heating in old homes, giving you FIFTEEN (15) MONTHS' time in which to pay for same.

We can also install an ( ) Steam or Hot Water heating system, Automatic Hot Water heater or ( ) heater on the same convenient terms.

Return the enclosed card at your earliest convenience. Our representative will be glad to call without obligating you in any way.

Trusting to be of service to you in the near future, we are

Yours very truly,
H. H. WARNER & COMPANY,
By H. H. Warner

*At left—another of the clever sales letters that produce sales*

majority will drop after two, or three days, but out of the eight we can usually pick one. Eight men at $12 only amount to $96, whereas if we had five men at $20 it would amount to $100 and we would cover a lot less territory. In this way we can get rid of the floaters at once and still cover a larger amount of homes.

"If a man looks as though he will amount to something we pay him $15 to $20 salary and 5% commission on whatever is closed for him. In other words, the man who closes the sale gets 5% and the canvasser gets 5%. One closer can usually handle the calls from four to six canvassers.

"A very important factor in this work is the salesmen's portfolio our men carry. This contains a brief outline of the Company, a statement by the President, photograph of our establishment, stock room, office, warehouse and equipment. Photographs of installations before and after, copy of our guarantee bond, copy of newspaper advertisement, telephone directory advertisments, testimonial letters from customers, special pages devoted to every individual item we sell, pages devoted to our special time payment plan, etc. The idea being to win the people's confidence by showing them who we are and what we have done in the past.

H. H. WARNER CO.
3957 Grand River Ave.
DETROIT, MICHIGAN

Gentlemen:-

Party below is interested in—
Steam ☐ Hot Water ☐ Arcola ☐ Warm Air ☐

Name _____ Phone _____
Address _____ Near _____
Best time to call _____

Recommended by _____
Address _____ Phone _____
Did party see your Heating Plant. Yes ☐ No ☐

DATE _____
NAME _____
ADDRESS _____
NEAR _____ PHONE _____
WHAT WANTED _____
CALL _____
ESTIMATE BY _____ DATE _____ PRICE _____
RECOMMENDED BY _____

NAME _____ PHONE _____
ADDRESS _____ YEARS _____
PROSPECT FOR _____
SOURCE OF INFORMATION _____ DATE _____
CALL _____
FOLLOW UP BY _____

| DATE | RECORD OF MAILINGS | DATE | PERSONAL CALL AND RESULTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

NAME _____ PHONE _____
ADDRESS _____ YEARS _____
PROSPECT FOR _____
SOURCE OF INFORMATION _____ DATE _____
CALL _____
RESULT OF CALL _____

SALESMAN _____ DATE _____
THIS CARD MUST BE RETURNED TO OFFICE AS SOON AS CALL HAS BEEN MADE

NAME _____ PHONE _____
ADDRESS _____ YEARS _____
HOW DOES OWNER HEAT HOUSE _____
HAS OWNER BASEMENT _____ FRUIT CELLAR _____ TOILET IN HOUSE _____
BATH TUB _____ LAVATORY _____ HOT WATER SUPPLY _____ GAS RANGE _____
PARTY IS INTERESTED IN ( ARCOLA ☐ STEAM ☐ VECTO ☐ GAS RANGE ☐ PLUMBING ☐ AUTOMATIC HOT WATER
REMARKS: _____
SOLICITOR _____ DATE _____

*At right—forms used in the securing and following of prospects. Forms are for customers' and for salesmen, as well as for filing*

**Rules for Satisfying Customers**

"Every job must be installed as nearly perfect as possible, regardless of cost. All jobs closed by our salesmen are rechecked at the job by our engineer. If there is any question of doubt as to boiler

**H. H. WARNER & CO.**
PLUMBING & HEATING CONTRACTORS
216 WEST LARNED STREET
DETROIT, MICH.

Mr. Home-Owner:-

NEW! - - It's the voice of our age, --the demand of the people for better and more beautiful things.

Would you like to revert back to the age of the horse and buggy or the old oil Lamp?--Then why be out of date with your old-fashioned heating apparatus?

We are offering radiator heating at the lowest price ever before quoted for Steam, Hot Water or ( ) heating installations. Why shiver through another winter? Have your work done now before the rush. As an inducement we have arranged to repeat our sensational offer of last spring, allowing you

$25.00 FOR YOUR OLD STOVE OR BASE-BURNER.

During the month of April only, we will allow a credit of twenty-five ($25.00) dollars for your old stove or base-burner, no matter what its condition, same to apply on the installation of a modern heating plant. Your present heating arrangements will not have to be disturbed while the work is in progress.

Any of these heating systems can be installed with only a small payment down and 10 to 18 months' time in which to pay the balance. You will be surprised how easily it can be done. We can also install an automatic hot water heater or do your plumbing on the same convenient terms.

Mail the enclosed card or phone us--our estimator will call at your convenience. He will cheerfully give you an estimate or any other information you might desire, without obligating you in any way.

Faithfully yours,
H. H. WARNER & COMPANY
H. H. Warner

**H. H. WARNER & CO.**
PLUMBING & HEATING CONTRACTORS
216 WEST LARNED STREET
DETROIT, MICH.

Dear Sir:

Possibly you will need a new Bath Room, Heating Plant, Kitchen Sink, or Hot Water Heater? Perhaps we can remodel or repair your present equipment at a large saving to you.

We specialize in the installation of Modern Plumbing and Heating in old homes, using the ( ) Co.'s Steam, Hot Water and ( ) Heating systems, also the ( ) Warm-Air Furnace, which is a product of the ( ) Company.

You do not need cash. A small payment on completion of work and two years to pay the balance will permit you to enjoy these comforts. Our "Easy Pay Plan," which means a few cents a day will modernize your home.

Return the enclosed card at once. No postage is required. Our engineer will be glad to call, offering you his valued advice and submitting an estimate without obligating you.

Trusting we may have the pleasure of serving you, we are

Very truly yours,
H. H. WARNER & COMPANY
HHW:RG By H. H. Warner

**H. H. WARNER & CO.**
PLUMBING & HEATING CONTRACTORS
216 WEST LARNED STREET
DETROIT, MICH.

Dear Sir:-

We are writing regarding your future plumbing and heating requirements.

Your decision to have a basement built was a wise one for it will enable you to install a heating system that will do away with the old stoves,--their dirt and inconvenience.

Being authorized dealers for the ( ) Company's line of ( ) Boilers and radiators, and specializing in old house work, we are especially anxious to serve you.

The finest homes and mansions are heated with Ideal outfits, because it is the only healthful and satisfactory way. The genial warmth and cleanliness, and easy care-taking make radiator heating a joy forever and all this is accomplished with no more fuel than with an old fashioned heater. An Ideal outfit increases the value of any home and will last a life time.

We require only a small payment on completion of work with 15 Months or more in which to pay the balance. Your present heating need not be disturbed while this work is being done.

Do not install a heating outfit of any kind until you have seen us. Return the enclosed card at your earliest convenience. Our engineer will be glad to call, offering you his valued advice and submitting estimate without obligating you.

Trusting to be of service to you in the near future, we are,

Yours very truly,
H. H. WARNER & COMPANY
By H. H. Warner

*Three more of the sales letters that the Warner company uses to put over radiator heat, and the time payment idea*

being proper size, or of insufficient radiation, he is instructed to use a larger size without expense to the customer. Our motto has always been, 'A satisfied customer at any price.' The result is that approximately 25% of our business is secured through our old accounts.

"We make every customer a salesman for us. Letters are continually going forward reminding people that we pay a commission on any sale that is closed through them. We also have specials offering extra commissions on sales closed during certain months. We get plenty of leads from this. In fact, some of our old accounts plug too much for us, sending us names of people that probably will never be able to own a heating system. However, these names are filed for future reference.

"We service all our jobs free of charge no matter how long they are installed, or how long they are paid for. All of this work being charged to our advertising account.

### Meeting Conditions as They Change

"During the Spring house cleaning months we have special trade-in offers. Usually we allow credit of $25 on any make of stove, or furnace turned in on a new installation.

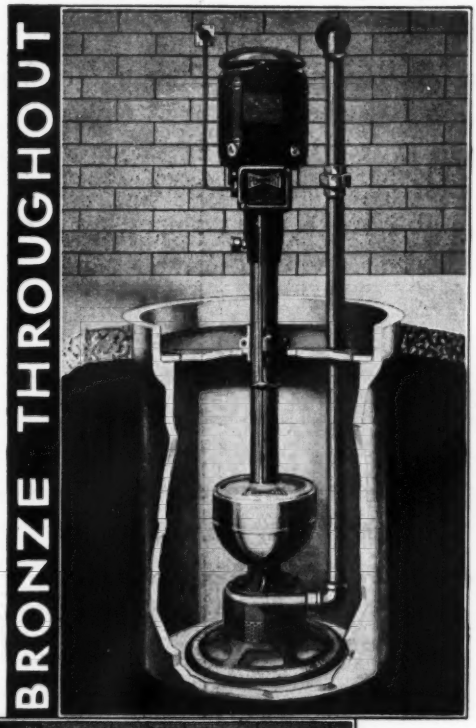
"Realizing conditions in Detroit would not permit of a large amount of old house installations last year, we immediately put in a warm air furnace department and a general repair department. During six months we did close to one thousand heating repair jobs alone, ranging from replacing a defective valve to a complete overhauling. This is remarkable inasmuch as we never did a repair job of any sort until May of last year.

"We do not stick to one style of advertising. As conditions in this town change, we change our advertising budget. We devote approximately between 4% and 5% of our budget to advertising. We use three separate sets of telephone numbers and every call that comes into our office is checked as to its source. In this way we can tell what is giving us the best result."

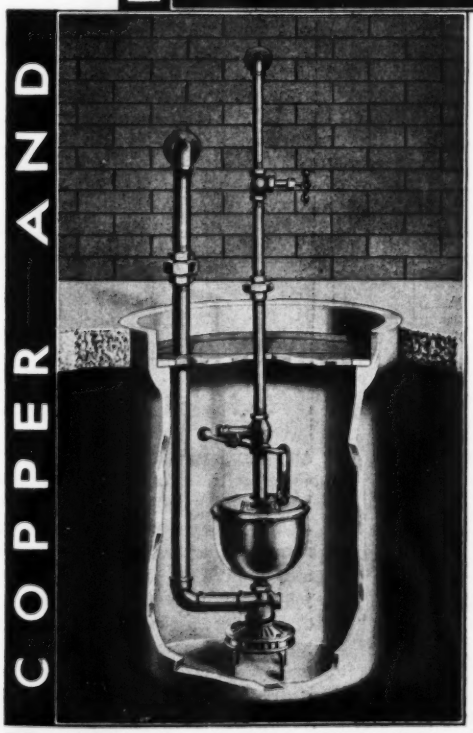
An analysis of the plans which have been described will indicate that here is a contracting firm that has missed no possible bets in the way of modern merchandise. There is nothing here that is merely clever. Everything is soundly worked out. Satisfied customers are capitalized—but to their profit, as the "dividend" coupons on the guarantee bond indicate. Newspaper copy is timely, sound, and contains special inducements such as every other retail industry has made use of.

Represented by such firms, the retailers of the plumbing and heating industry may face with ease any comparison which may be made with other fields.

# A few reasons why— Plumbing Contractors install..




TRADE PENBERTHY PRODUCTS MARK




TO dispose of seepage below sewer level—or where sewerage facilities are not available—many plumbing contractors prefer one of the units illustrated here. Local conditions determine whether the electric or hydraulic unit will be most economical—but both pumps have many characteristics that appeal to the plumbing contractor.

Both the Penberthy Automatic Electric Sump Pump and the Penberthy Automatic Hydraulic Cellar Drainer are immune to corrosion—they are copper and bronze throughout. Both are thoroughly dependable under the most severe operating conditions, and are economical of electricity and water power. They are fool-proof, require no kid-glove handling, and are easy to install—when properly installed there is no servicing to consume time and reduce profits.

Manufacturing a complete line of both electric and hydraulic units in a full range of types and sizes, the Penberthy organization is especially well qualified to recommend the correct equipment for any specific case. Leading jobbers throughout the country stock both electric and hydraulic units.

PENBERTHY INJECTOR COMPANY
Established in 1886 DETROIT Canadian Plant Windsor, Ont.

# PENBERTHY PUMPS REMOVE SEEPAGE WATER

# RETAIL ADVERTISING SERVICE

PROMISE a housewife a cool kitchen and you make a friend. Show her that heating water in the kitchen is one way of sacrificing comfort, and that it is more comfortable and more economical to heat the water in the basement, and you make a customer.

## Hot Water in Cool Kitchens

SUMMER needs for hot water are no less than in winter—but if you are heating water in the kitchen, it makes for great discomfort during the warm weather.

You will enjoy greater comfort in your kitchen if your water heating equipment is in the basement, operating automatically at the turn of the faucet. We'd be glad to show you our display, and to explain the economy of the modern water heater.

(In this space your name, etc.)

**For one column space**

Dear Madam:

When it is said that we in America enjoy the highest living standards in the world, the statement generally refers to the conditions of life we have created for the American home. There the element of drudgery has largely been eliminated.

And the most characteristic fact concerning this development of labor-saving equipment is that it has served economy.

Take, for example, the modern water heater. Operated automatically, at the turn of the faucet, it makes available a constant supply of hot water. But it does not cost as much to heat that water as did the old-fashioned method of heating it on a stove. In the first place, the water is delivered at a constant temperature, which may be regulated; and in the second place, the housewife may use just the amount of hot water needed, without waste.

For the summer, particularly, we believe you would enjoy the comfort of a modern water heater. We invite you cordially to visit our display room and see a demonstration. It will not obligate you.

Very truly yours,

HARRY BROWN

**A plumbing sales letter**

## This Summer —

**Why endure the acute discomfort of heating water up in the kitchen when, with a modern water heater, you can actually save money by heating water in the basment, while enjoying freedom from the added heat when water must be warmed upstairs.** **?**

COME IN FOR A DEMONSTRATION

**(In this space your name, etc.)**

**A two-column newspaper ad**

▲

**The copy on these two pages is for the use of readers of DOMESTIC ENGINEERING —without charge. If you wish to use the illustrations, they are sold at $4.20 for twelve —three months' service.**

**If you are using any of this copy, send us samples. We like to keep in touch with what our readers are doing.**

▼

## ALWAYS IN HOT WATER

"Any of the people whom I serve, and who will take my advice," says Harry Brown, local plumbing contractor, "are always in hot water. I know that some of my friends will be able to joke about that statement—but it's no joke to add to summer's heat by heating water in the kitchen.

"Modern developments put the water-heating equipment in the basement, regulate it automatically, and deliver all of the required hot water at a turn of the faucet. Thus it keeps people in hot water all the time—comfortably. And, what is perhaps more important, it keeps them in hot water constantly, but economically."

**Hand this publicity item to your newspaper**

## Sell Automatic Heat

Automatic Heat is the word in American homes today. Controlled temperatures go along with the American desire for comfortable, convenient living—along with the automobile and the radio. Now is the time to sell it.

A two-column newspaper ad

### Automatic Heat

**Think of modern automatic heat, not in technical terms, but in terms of human comfort—the steady, even temperatures, the lack of dirt, the elimination of basement chores, fewer colds, pleasant conditions for entertaining guests—and a probable saving in heating costs. Let us show you—without obligation—how to make your heating plant automatic.**

**(In this space your name, etc.)**

### Automatic Heat

WHATEVER the demands of the season, if you have modern automatic heat, your heating plant delivers just what is needed—when it is mild your house is not overheated—and when it is cold, your house is kept at the proper temperature. This means not only great comfort, but economy. Your present heating plant can be made automatic—we'd be glad to explain how, without obligation to you.

(In this space your name, etc.)

A single column ad

## WHEN THEY EXCAVATE AMERICAN RUINS

"The antiquarians of the future," says Harry Brown, local heating contractor, "when they excavate the ruins of America are going to be interested in whatever shovels they find.

"Because, by that time, home owners haven't been using shovels for centuries. Whether they burn coal, oil or gas in their heating plants, they won't have to shovel it. Automatic heat—the standard of American home comfort—will put the shovels out of business, and when they're digging for historical remains some thousands of years hence, they'll probably be wondering what shovels were used for in a country where fuel automatically took care of itself. They'll probably agree the shovels were used while American civilization was in its first stages."

Give this publicity item to your local newspapers

## Your Window

**Window displays nee change. If you have a permanent display of fixtures and equipment, make changes in lighting—use the free floor space for changed displays of accessories. Property owners who pass your window will never be particularly drawn to it if it remains the same in every detail for months at a time. Change—even small changes—is what draws attention to a window.**

Dear Madam:

Automatic Heat--what does it mean?

I mean, what does it mean aside from the mechanical arrangements? What does it mean to the home that enjoys it, in terms of human comfort?

Doubtless you know the difficulties of maintaining even temperatures in your home. On a mild day, your house may be too warm; on a bitterly cold day, it may be difficult to keep it really comfortable.

Automatic heat means that your heating plant adjusts itself to those conditions. It steams up when it's necessary; and it works mildly when that is sufficient. That means it saves fuel, of course. And it almost certainly means less colds during the winter. One of the prime sources of colds is overheated rooms.

Comfort, convenience, and economy are the results attained with automatic heat. We'd be very glad to send a competent man to show you how your present heating plant can be made automatic--to your greater comfort.

Very truly yours,

HARRY BROWN

A heating sales letter

# Protection of Range Boilers Against Siphonage

By S. M. BARR

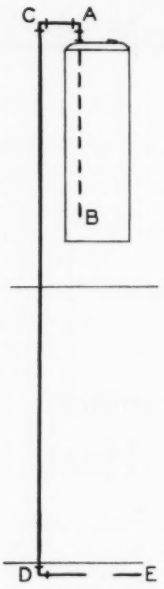


Fig. 1

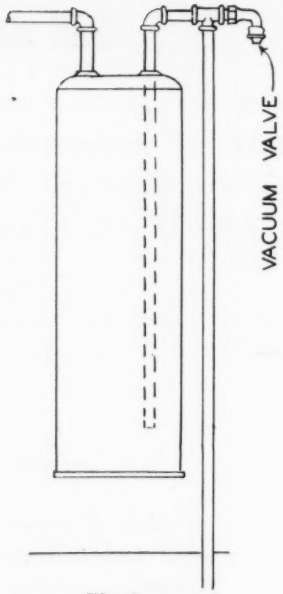


Fig. 2

IT IS now generally admitted that range boilers and hot water tanks need to be protected against excessive pressure and excessive temperature. A third measure is generally needed to make the protection of these boilers complete, and that is the safeguarding of the boilers against siphonage.

While siphonage is probably not so serious a matter as excessive temperature and excessive pressure, still it is an important matter, and one that the plumber often runs up against.

Siphonage of range boilers can take place only in the case of direct pressure systems. In the case of a boiler supplied by an attic tank located above the boiler, it is obvious at once that a break in the supply line or any other condition that might arise, could not result in siphoning the contents of the boiler. But it is different with a boiler supplied directly from city mains. In showing how a boiler may be siphoned we will refer to Fig. 1. This illustration is typical of a large majority of installations, in that the boiler supply rises vertically through one, two or more floors, and then dips down by means of the boiler tube to a point near the bottom of the boiler. The combination of piping makes an ideal siphon, in which the long arm of the siphon is the pipe CD, and the short arm AB. If AB and CD were of about equal lengths there would be no siphonic action. If AB were longer than CD there would also be no action. But if the long arm of the siphon, CD, were very much longer than the short arm AB, which dips down into the liquid to be siphoned, then the action of the siphon would be strong. The ordinary supply line to a pressure boiler then is ideal for siphonage.

The question will be asked as to what possible cause there can be for siphoning such a boiler as shown in Fig. 1, when the piping and boiler are filled and under pressure. Under such conditions there can be no siphonage, but suppose there is a break in the pipe DE, or a break in the street main, or suppose the service pipe were shut off, what would happen? The result in each instance would be the siphonage of the boiler, and this action would continue until the boiler had drained down to the bottom of the boiler tube, unless overcome in some way.

The result of the siphonage of a range boiler is its collapse, many times. The action of siphonage produces a more or less perfect vacuum inside the boiler, and if the shell of the boiler is not sufficiently strong, it will collapse. Pressure of the atmosphere on the outside surface of the boiler is 15 lb. per square inch, and with a vacuum inside there is nothing to withstand the crushing force of atmospheric pressure except the strength of the boiler itself.

It may be stated that a collapsed boiler may often be forced back into shape, by turning on the pressure.

Referring to the subject of boiler siphonage, there are two common methods of preventing siphonage. The most common and least expensive method is to drill or file a small hole in the boiler tube, near the top of the boiler. As soon as siphonage is set up, air enters through the hole in the boiler tube, and breaks the siphon. The method, however, is not a satisfactory one, for the siphon hole is most likely to become closed up with rust and sediment, which would make it inoperative. Also, if the hole is made so large that the chance of its filling up is overcome, then it will be so large that cold water will be admitted through it into the hot water stored in the top of the boiler.

We have previously alluded to the use of a check valve to prevent siphonage, but when this is used on the boiler supply, danger of explosion exists.

The correct method is to use a vacuum valve. This valve should be placed at a high point on the boiler supply, for instance, as shown in Fig. 2.

Normally water pressure holds the vacuum valve closed, but when a vacuum forms on the inner face of the valve, atmospheric pressure on the outside forces it open and admits air, thus breaking the siphon.

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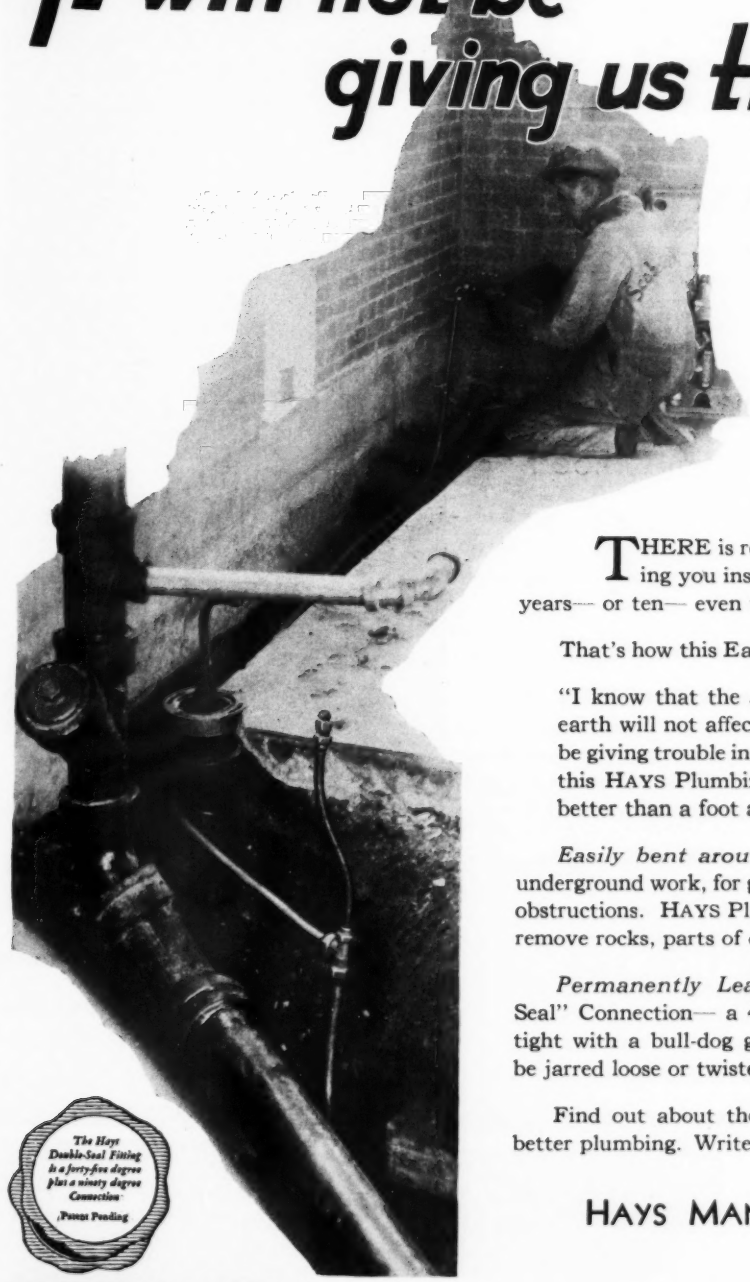


THERE is real satisfaction in knowing that the plumbing you install will be giving leak-proof service in five years— or ten— even where conditions are far from ideal.

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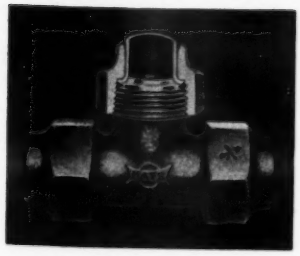

# HAYS

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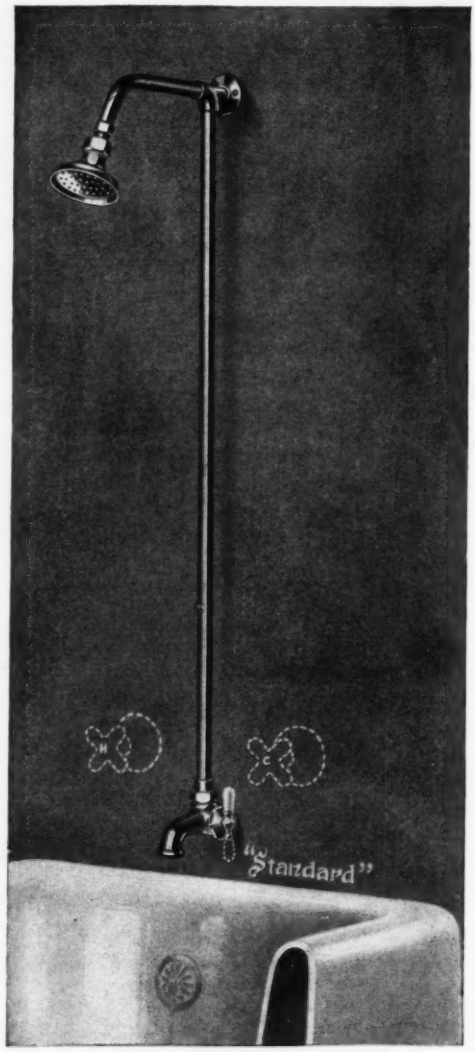
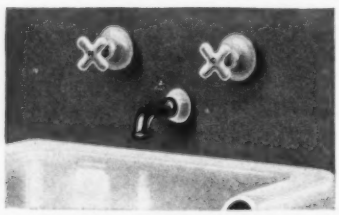
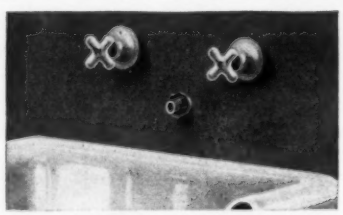


K 660 "Diverto" over-rim spout with shower


The owner of this bath needs and wants a shower


Simply remove the present spout and—

Attach the new spout—then couple with the riser

**"Standard" PLUMBING FIXTURES**

# Originality in Piping Scheme

(Continued from Page 43)

risers. If the selected pipe sizes are comparatively large, the power required to force the water through the circuit will be comparatively small. There is an optimum pipe size with a corresponding power requirement which will constitute the most economical installation. This particular design can be determined by making several trials and then selecting the one which is most economical.

### The Procedure

For the case in hand, it was assumed that an average velocity of about two feet per second or a total friction head of about three feet of water in the mains of each of the two circuits would result in an economical installation.

Since the length of the short circuit is about 340 feet, its pipe sizes must be such that the average friction head is about 36000/340 or about 100 milinches per foot of pipe. (Note. Three feet of water is equal to 36000 milinches.)

The system was designed to operate with 190-deg. water in the flow lines and 170-deg. water in the return lines when the outside temperature is 25 degrees and the inside temperature 70 degrees.

From a pipe chart, it appears that for a friction head of about 100 milinches per foot of pipe and a temperature drop of 20 degrees the following quantities of heat will be conveyed by the respective pipes:

Three in., 550,000 Btu; 2½ in., 300,000 Btu; 2 in., 190,000 Btu; 1½ in., 100,000 Btu; 1¼ in., 62,000 Btu.

With these data a tentative selection of the pipe sizes for the flow and return mains was made and recorded in Table 2 as shown.

### Table 2 Explained

Table 2 was prepared as follows: Column 1 shows the designations of the sections into which the flow main is divided. A section is a subdivision of the main extending either from the beginning of the main to the first riser connection, or from the first riser connection to the second and so on. Every section of the flow main has a definite quantity of water flowing through it and this quantity generally differs from that flowing through any other section of the same circuit.

Column 2 shows the quantity of heat conveyed by each section of the flow main; this information is secured by beginning with the last riser connection and adding, successively, the quantities of heat required by the several sets of risers. The quantities are derived from the calculations of the heat losses of the several rooms served by the respective risers and are recorded on the plan near the risers. For instance, the last riser, Riser *17*, requires 31,000 Btu; the last section of the flow main must, therefore, convey 31,000 Btu; Riser *16* requires 31,000 Btu; the corresponding section of the main must convey 31,000 plus 31,000, or 62,000 Btu, and so on. These values are recorded in the table as shown.

Column 3 shows the number of feet of pipe and the number of elbows included in the section; this information is secured from the pipe plan.

Column 4 shows the size of the pipe.

Column 5 shows the friction head per foot of pipe and elbows. This information is secured from the pipe chart in the usual way.

Column 6 shows the friction head for the whole section.

Column 7 shows the progressive sums of the friction heads in the successive sections to the several riser connections. Thus, for the first riser connection, the friction head is 465 milinches; for the second riser connection, it is 465 plus 1,105, or 1,570 milinches, and so on to 27,005 milinches for the last or 17th riser connection.

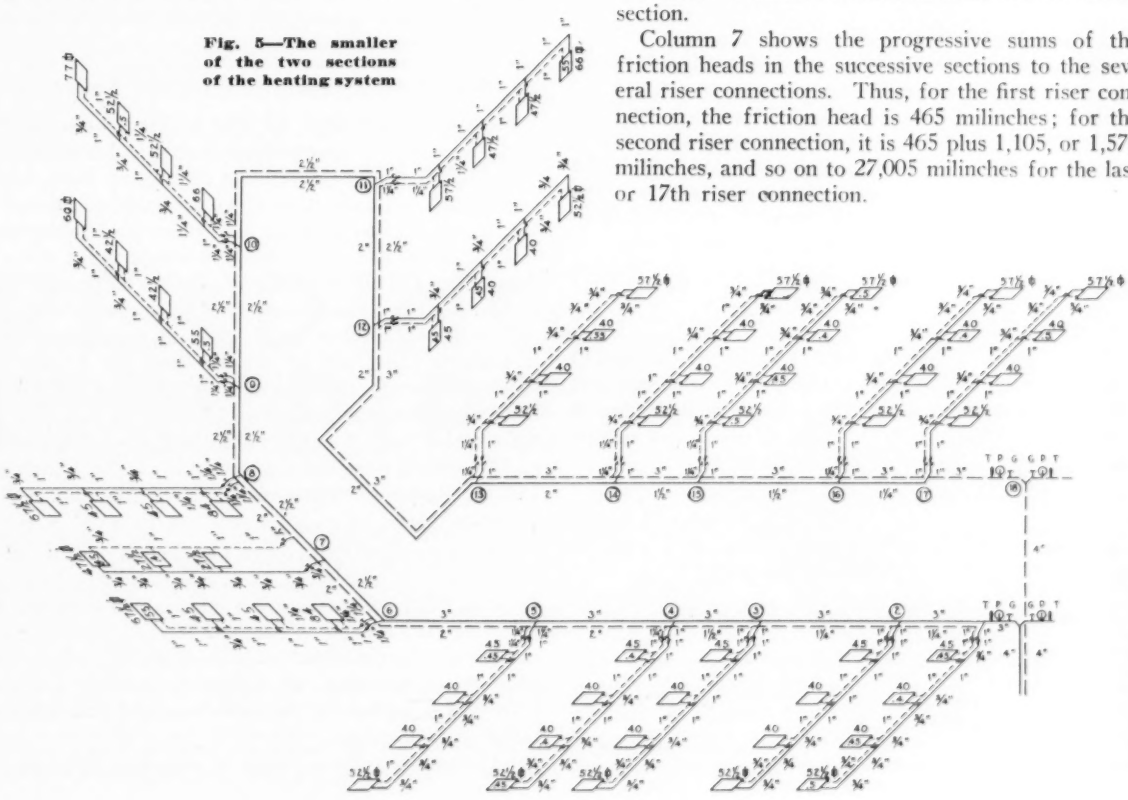


**Fig. 5—The smaller of the two sections of the heating system**

**Table 2—Friction Heads in Flow and Return Mains**

| Flow Main | | | | | | | Return Main | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Section | 1000 Btu | Feet Ells | Diameter | Unit Frict. | Total Frict. | Grand Total | Section | 1000 Btu | Feet Ells | Diameter | Unit Frict. | Total Frict. | Grand Total | Final Total | Risers |
| 0–1 | 533.7 | 5 | 3 | 93 | 465 | 465 | 1–2 | 28.7 | 13 | 1¼ | 23 | 299 | 29082 | 29547 | 1 |
| 1–2 | 505.0 | 13 | 3 | 85 | 1105 | 1570 | 2–3 | 57.4 | 21½ | 1¼ | 80 | 1720 | 28783 | 30353 | 2 |
| 2–3 | 476.3 | 21½ | 3 | 76 | 1634 | 3204 | 3–4 | 86.1 | 13 | 1½ | 78 | 1014 | 27063 | 30267 | 3 |
| 3–4 | 447.6 | 13 | 3 | 68 | 884 | 4088 | 4–5 | 114.8 | 21½ | 2 | 40 | 860 | 26049 | 30137 | 4 |
| 4–5 | 418.9 | 21½ | 3 | 60 | 1290 | 5378 | 5–6 | 143.5 | 23½ | 2 | 60 | ..... | ..... | ..... | ..... |
| 5–6 | 390.2 | 23½ | 3 | 53 | ..... | ..... | ..... | ..... | 1–45° | 2 | 190 | 1600 | 25189 | 30567 | 5 |
| ..... | ..... | 1–45° | 3 | 260 | 1505 | 6883 | 6–7 | 183.5 | 18 | 2 | 95 | 1710 | 23589 | 30472 | 6 |
| 6–7 | 350.2 | 13 | 2½ | 135 | 1755 | 8638 | 7–8 | 200.3 | 12 | 2 | 110 | 1320 | 21879 | 30517 | 7 |
| 7–8 | 333.4 | 18½ | 2½ | 120 | 2220 | 10858 | 8–9 | 240.3 | 15½ | 2½ | 65 | ..... | ..... | ..... | ..... |
| 8–9 | 293.4 | 14 | 2½ | 95 | ..... | ..... | ..... | ..... | 1–45° | 2½ | 260 | 1268 | 20559 | 31417 | 8 |
| ..... | ..... | 1–45° | 2½ | 360 | 1690 | 12548 | 9–10 | 273.5 | 21 | 2½ | 82 | 1722 | 19291 | 31839 | 9 |
| 9–10 | 260.2 | 21 | 2½ | 75 | 1575 | 14123 | 10–11 | 314.0 | 31½ | 2½ | 110 | ..... | ..... | ..... | ..... |
| 10–11 | 219.7 | 31½ | 2½ | 55 | ..... | ..... | ..... | ..... | 2–90° | 2½ | 600 | 4665 | 17569 | 31692 | 10 |
| ..... | ..... | 2–90° | 2½ | 320 | 2373 | 16496 | 11–12 | 350.0 | 21½ | 2½ | 135 | 2903 | 12904 | 29400 | 11 |
| 11–12 | 183.7 | 21½ | 2 | 100 | 2150 | 18646 | 12–13 | 378.7 | 50 | 3 | 50 | ..... | ..... | ..... | ..... |
| 12–13 | 155.0 | 54½ | 2 | 70 | ..... | ..... | ..... | ..... | 2–45° | 3 | 245 | ..... | ..... | ..... | ..... |
| ..... | ..... | 2–45° | 2 | 217 | ..... | ..... | ..... | ..... | 2–90° | 3 | 350 | 3690 | 10001 | 28647 | 12 |
| ..... | ..... | 2–90° | 2 | 310 | 4769 | 23415 | 13–14 | 409.7 | 21½ | 3 | 58 | 1247 | 6311 | 29726 | 13 |
| 13–14 | 124.0 | 21½ | 2 | 50 | 1075 | 24490 | 14–15 | 440.7 | 13 | 3 | 67 | 871 | 5064 | 29554 | 14 |
| 14–15 | 93.0 | 13 | 1½ | 92 | 1196 | 25686 | 15–16 | 471.7 | 21½ | 3 | 75 | 1613 | 4193 | 29879 | 15 |
| 15–16 | 62.0 | 21½ | 1½ | 45 | 968 | 26654 | 16–17 | 502.7 | 13 | 3 | 84 | 1092 | 2580 | 29234 | 16 |
| 16–17 | 31.0 | 13 | 1¼ | 27 | 351 | 27005 | 17–18 | 533.7 | 16 | 3 | 93 | 1488 | 1488 | 28493 | 17 |

Columns 8 to 14 show the corresponding values for the return main. However, it should be noted that the totals in column 14 are secured by beginning with 1,488 milinches, the friction head for the last or 17th riser connection, and adding, successively, to 29,082 milinches, which is the friction head in the return main for the first riser connection.

Column 15 shows the sum of the total friction heads in the flow main for any one riser connection and the total friction heads in the return main for the same riser connection. Thus, for Riser Connection No. *1*, the total friction head is equal to the friction head in the first section of the flow main (465 milinches) plus the friction head in all sections of the return main (29,082) or to 29,547 milinches, as shown in Column 15.

Similarly, for Riser Connection No. *10*, the friction head is equal to 14,123 from Column 7 plus 17,569 from Column 14, or 31,692 milinches, as shown in Column 15.

In the same manner, the figures shown in Column 15 give the total friction head, partly in the flow main and partly in the return main, which must be overcome in order to make the proper quantity of water flow to that particular riser.

For an ideal arrangement of the pipe sizes in the flow and return mains, the values shown in Column 15 should all be the same. This condition cannot, as a rule, be attained with standard pipe sizes available.

A study of the seventeen values shown in Column 15 shows that the lowest and highest values are 28,493 and 31,839 milinches. The difference between these two values is 3,346, or about ten per cent of the highest value. This difference is probably small enough so that the pipe sizes shown in Table 2 may be adopted for the final design. If the difference were much larger it might be better to vary the pipe sizes so as to secure more nearly uniform results. In fact, the sizes shown in Table 2 are not those which were first selected, but those which were selected after a few trials and substitutions had been made. Having thus completed the design of the flow and return mains, the next step is to design the riser connections to and through the first floor radiators.

### Riser Connections to First Floor Radiators

For these connections we may arbitrarily assume that no pipe shall be larger than 1¼ inches and none smaller than 1 inch, except the radiator connection itself, which may be ¾ inch, and that there shall be no change in size in the section between the connection to the main and the connection to the radiator except at the union in that section. This would make possible five major combinations of 1¼ inch and 1 inch pipe. In order to reduce the differences which exist in the values shown in Column 15, it will be best to select the 1 inch pipe for the flow and return connections for those risers which have the low values in Column 15; the 1¼ inch pipe for those which have the high values in Column 15, and one of the several possible combinations of the 1 inch and 1¼ inch pipe for those which have the intermediate values.

Beginning then with Riser Connection No. *9*, which has the largest friction head, 31,839 milinches, let Fig. 6 represent that connection, divided into five sections, *AB*, *BC*, *CD*, *DE*, and *EF*. The data relating to this section are shown in the usual way in Table 3. They were derived by selecting the largest pipe sizes proposed, namely, 1¼ inches for the two risers and 1 inch for the radiator connections.

The friction head for these five sections is 1,414 mil-

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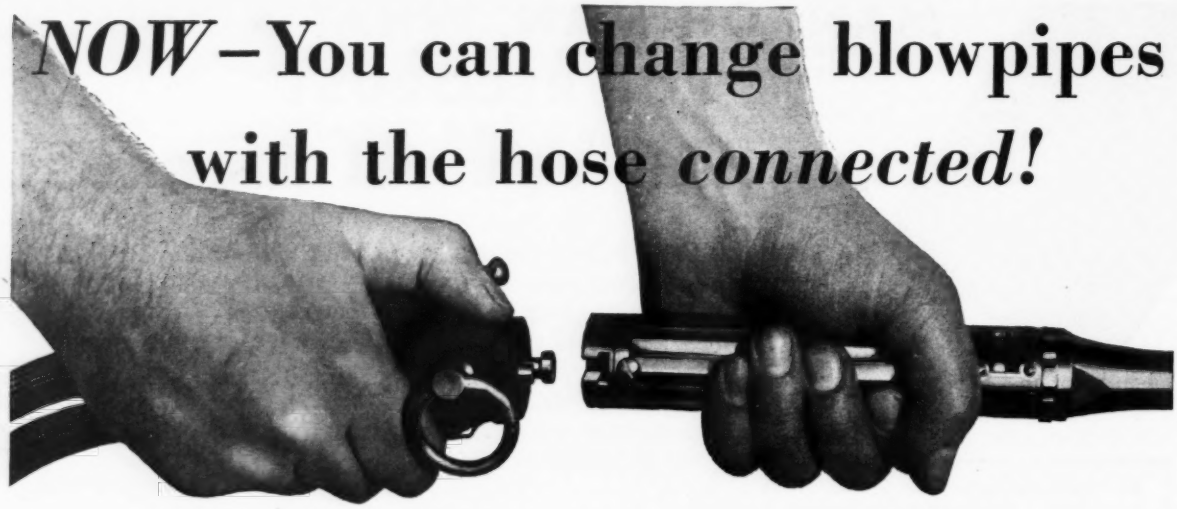

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The Prest-O-Weld Detachable Valve Body is supplied on all new type Prest-O-Weld Blowpipes. If you own one new type blowpipe, you can obtain additional Prest-O-Weld Blowpipes merely by buying the necessary handles. The Detachable Valve Body fits them all.

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inches, which, added to 31,839, gives a total of 33,253 milinches for the circuit of this particular radiator, *9a*.

Proceeding next with Riser Connection No. *17*, which has the smallest friction head, 28,493 milinches, and assigning to it the smallest pipe sizes proposed, namely, 1 inch for the risers and ¾ inch for the radiator connections, the corresponding friction is, as shown in Table 4, 5,038 milinches. Adding this to 28,493 gives 33,531 milinches for the total through the Radiator *17a*.

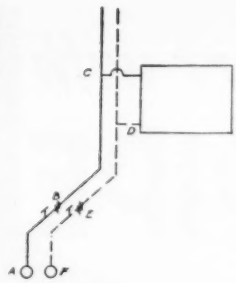



**Fig. 6 — Connection of main to flow and return risers Number 9**

The difference between the friction heads of Radiator *9a* and Radiator *17a* is 33,531 — 33,253, or 278 milinches, less than 1 per cent of the total friction head. This difference is small enough to be neglected.

The next step is to design the connections of the remaining 15 sets of risers so that, in every case, the friction head through the first floor radiator is as nearly as possible equal to 33,531 milinches. To do this a table is prepared, similar to Tables 3 and 4, for each of the 15 sets of risers and the pipe sizes for the five sections, *AB, BC, CD, DE,* and *EF* selected so that the total friction head is as near 33,531 as possible.

This was done. The pipe sizes selected are shown on the pipe diagram of Fig. 5. The velocity of the water in the respective radiator connections and the total friction heads for the seventeen sets of risers are recorded in Table 5. When the friction head exceeds 33,531, the deficit is recorded as negative.

The friction heads in the seventeen circuits shown in this table are quite uniform. The difference between the highest and lowest is 710 milinches, or 2.1 per cent of the highest, or 2.15 per cent of the mean of the seventeen values.

**Table 5—Tabulation of the Friction Heads Through the 16 First Floor Radiators**

| Riser Connection | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| Total Frict. | 33086 | 33614 | 33528 | 33058 | 33210 | 33711 | 33645 | 33253 | 33768 |
| Deficit | 445 | -83 | 3 | 473 | 321 | -180 | -114 | 278 | -237 |
| Radiator Connec. | ¾ | 1 | 1 | ¾ | 1 | 1 | 1 | 1 | 1 |
| Velocity | 5½ | 3 | 3 | 5½ | 3 | 6 | 6 | 4 | 5 |
| Orifice | .45 | | | .45 | 0.5 | | | | |

**Table 5—(Continued)**

| Riser Connection | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|
| Total Frict. | 33742 | 33079 | 33238 | 33520 | 33390 | 33567 | 33531 |
| Deficit | -211 | 452 | 293 | 11 | 141 | -36 | 0 |
| Radiator Connec. | 1 | ¾ | ¾ | 1 | ¾ | ¾ | ¾ |
| Velocity | 4 | 5½ | 6 | 4 | 6 | 6 | 6 |
| Orifice | | .45 | | | | | |

## Use of Orifices

This difference is probably much less than the difference between the assumed outside temperature and the actual outside temperature and probably also much less than the difference between the calculated heat loss of one of the rooms and the actual heat loss of that room for a given outside temperature, and the pipe system as designed will give entirely satisfactory results. If, however, the differences between the several friction heads are to be reduced still further, additional friction may be introduced by inserting diaphragm orifices in unions placed in the radiator connections (or in any other portion of the circuit).

To determine the rates at which such diaphragm orifices cause friction heads, investigations were conducted by the *Texas Engineering Experiment Station* in cooperation with the *American Society of Heating and Ventilating Engineers*. The results are shown by the curves of Figs. 7 and 8. To explain the use of these curves, note, from Table 5, that the circuit of Radiator *1a* should have 445 milinches additional friction; note also that the velocity of the water in the ¾ inch radiator is 5½ inches per second. Refer to Fig. 7 and note that

**Tables 3 and 4—Total Friction Heads Through Two of the First Floor Radiators**

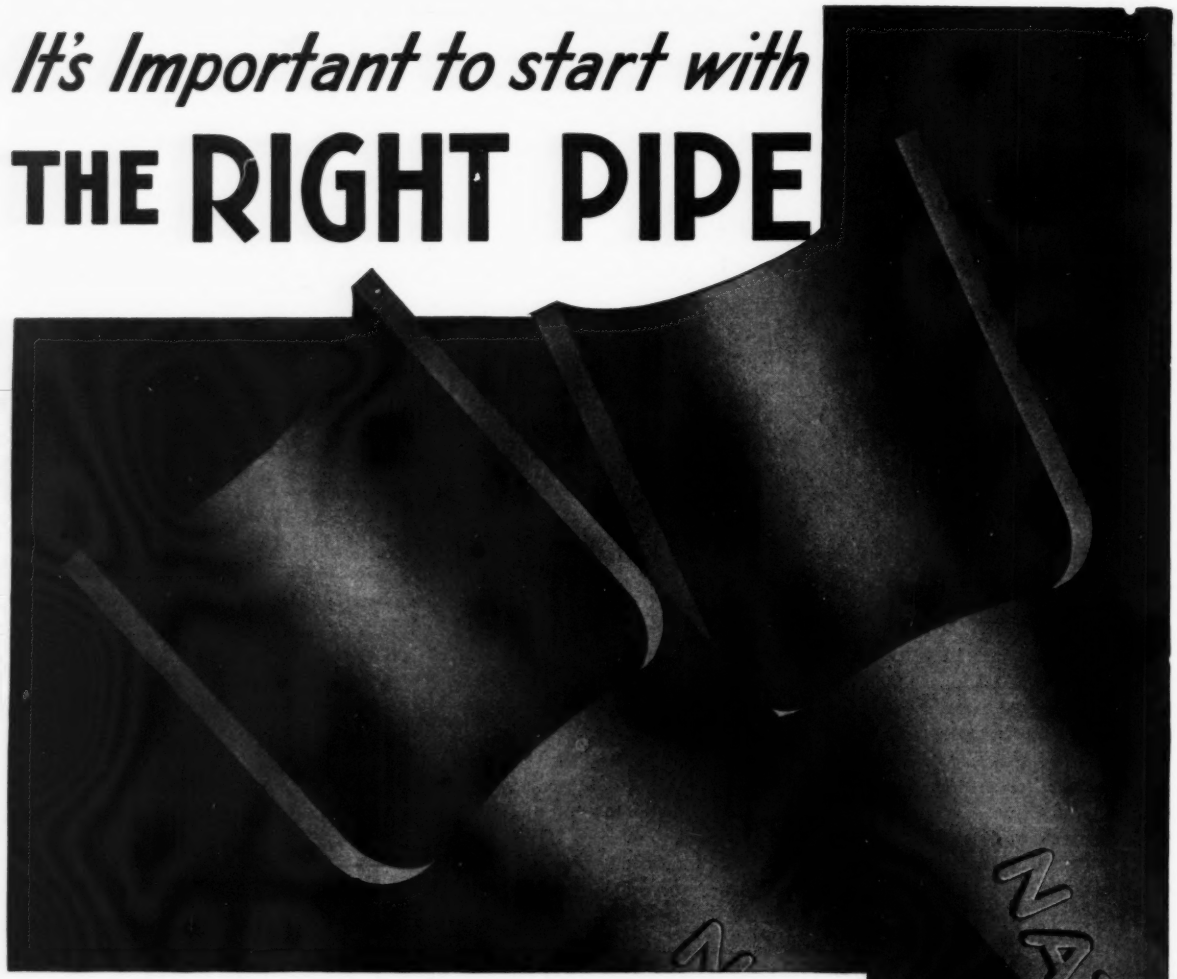
**Radiator 9a**

| Section | 1000 Btu | Feet Elbows | Size | Velocity In. | Unit Friction | Total Friction |
|---|---|---|---|---|---|---|
| AB | 33.2 | 2<br>34 | 1¼ | | 32<br>80 | 336 |
| BC | 33.2 | 5<br>1.5 | 1¼ | | 32<br>80 | 280 |
| CD | 9 | 2<br>11.2 | 1 | 4 | 11<br>20 | 246 |
| DE | 33.2 | 3<br>1.5 | 1¼ | | 32<br>80 | 216 |
| EF | 32.2 | 2<br>3.4 | 1¼ | | 32<br>80 | 336 |
| Total | | | | | | 1414 |
| Friction in Main | | | | | | 31839 |
| GRAND TOTAL | | | | | | 33253 |

**Radiator 17a**

| Section | 1000 Btu | Feet Elbows | Size | Velocity In. | Unit Friction | Total Friction |
|---|---|---|---|---|---|---|
| AB | 31 | 2<br>3.4 | 1 | | 110<br>230 | 1000 |
| BC | 31 | 9<br>1.5 | 1 | | 110<br>230 | 1335 |
| CD | 8.5 | 2<br>11.2 | ¾ | 6 | 31<br>47 | 588 |
| DE | 31 | 7<br>1.5 | 1 | | 110<br>230 | 1115 |
| EF | 31 | 2<br>3.4 | 1 | | 110<br>230 | 1000 |
| Total | | | | | | 5038 |
| Friction in Main | | | | | | 28493 |
| GRAND TOTAL | | | | | | 33531 |

# *It's Important to start with*
# THE RIGHT PIPE




The best of installation practice will not impart to a piping system qualities necessary for long life and satisfactory service. Durability must be in the structure of the pipe itself. And the more unfavorable the service conditions—the more important to start with the right pipe.

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# NATIONAL PIPE

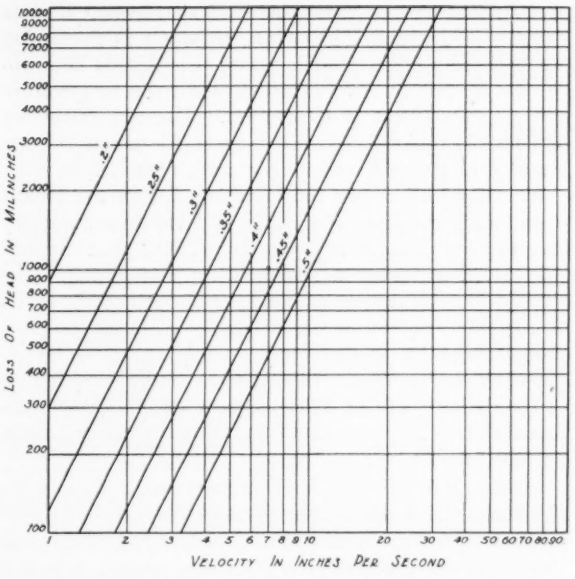


**Fig. 7—Friction head of central circular diaphragm orifices held by unions in a ¾-in. pipe line**

for a velocity of 5½ inches and a friction head of 445, a 0.5 inch orifice should be used.

Note also that for Radiator *5a*, 321 milinches additional friction should be supplied. The velocity in the 1 inch radiator connection is 3 inches per second. From Fig. 8, a 0.5 orifice should be used. In this manner the orifices were selected which are shown in Table 5 and in Fig. 5.

For those cases in which the necessary additional friction head is less than 1 per cent of the total friction head, i. e., in this case less than 335 milinches, no orifice was provided except for Radiator *5a*, discussed above to illustrate the use of the curves of Fig. 8.

In order to form an opinion as to the tolerance which may be permitted in a series of radiator circuits in a forced circulation system, without interfering appreciably with the satisfactory operation of the system, let us examine Fig. 9, which shows a small system.

One radiator is to dissipate 15,000 Btu, the other 10,000 Btu. The pipe sizes were selected so that the main is 1¼ inches and the branches supplying the two radiators are, respectively, 1 inch and ¾ inch. Each branch is to be composed of 15 feet of pipe and of 14 elbow equivalents.

The temperatures of the water in the flow and return lines are to be 190 and 180 degrees. The sizes of the two radiators, for $K = 1.4$ when the temperature difference is 115, should be 93 and 62 square feet.

By reference to a pipe diagram we find that the friction heads in the 1 inch and in the ¾ inch circuits will be, respectively, 4,580 and 6,320 milinches, if the system functions as specified. The difference between these two heads is 1,740 milinches, or 27 per cent of the larger value. It is evident that this condition cannot exist because the friction heads in the two branch circuits, connecting the 1¼ inch pipe at the points *A* and *B*, must be equal to each other.


# NYE'S DIE-JEST

Published in the interest of Progressive Plumbers and Steamfitters and incidentally in the interest of the N. T. & M.W.

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So I did, and I was sorry I hadn't done what she meant instead of what she said. Our lawn looked like it had been buttered, but I started in, and I did the whole yard in an hour. I mean the first square yard. I still had 4,444 yards left.

I want to say right here and now that a dandelion is the second cussedest thing in the world. It is surpassed in cussedness only by a poor pipetool or a cheap die. It grows like a rumor, and is as prolific as a California Jack Rabbit.

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A calculation will show that each of the two friction heads will be about 5,350 when the water is circulating through the system at such a rate that 25,000 Btu will be delivered to the two radiators when the temperature drop in the system is 10 degrees. The two calculated or desired friction heads differ from the actual friction head by 14 per cent and 18 per cent, respectively.

In order to increase the friction head in the circuit of the large radiator from 4,580 to 5,350 it is necessary that the water have a velocity 16/15 of that implied when the 1 inch pipe was selected for that circuit. The water will then remain in the large radiator only 15/16 of the time implied in the design and the temperature drop through the radiator will be only 15/16 of 10 degrees, or 9.4 degrees. The average water temperature in the radiator will be 186.3 degrees and the heat dissipated 15,150 Btu instead of 15,000, as calculated, or 1 per cent more.

Similarly, in order to decrease the friction head in the circuit of the small radiator from 6,320 to 5,350 it is necessary that the water have a velocity 9/10 of that implied when the ¾ inch pipe was selected for that circuit. The water will remain in the small radiator 10/9 the time implied in the design and the temperature drop through the radiator will be 10/9 of 10 degrees, or 11.1 degrees. The average water temperature in the radiator will be 184.5 and the heat dissipated 9,940 Btu instead of 10,000 Btu as calculated, or 6/10 of one per cent less.

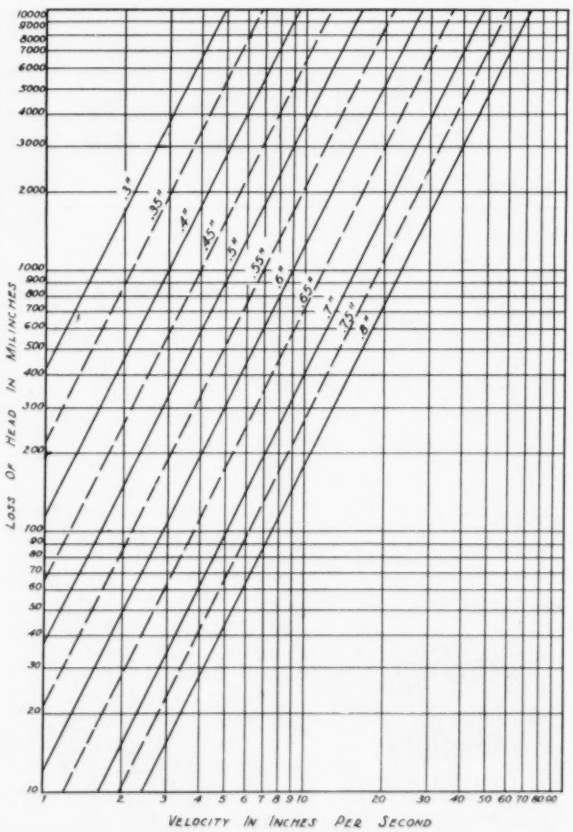


**Fig. 8—Friction head of central circular diaphragm orifices held by unions in a 1-in. pipe line**

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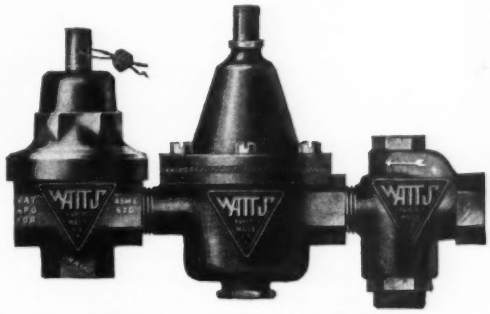


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● *Mr. Joseph Lotz talking about Chase Copper Water Tubing with Mr. K. C. Weiss, Chase Salesman, and Mr. R. A. Hyer, salesman for Trimble & Lutz Supply Company. Photographed at Mansbarger & Lotz, 1222 Chapline Street, Wheeling, W. Va.*

*MR. LOTZ:*

**"You fellows claim that your copper tube will stand freezing without cracking. Will it?"**

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**"Yes. We've frozen water inside a Chase copper tube, thawed it out, and refrozen it. Most tubes will stand five or six freezes. They expand about 20%, but they don't split. Of course, there's a limit. You can't expand any tube indefinitely."**

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It is evident, from this discussion, that an inaccuracy in the pipe design of a small forced circulation system like that shown in Fig. 6, which results in an error of about 15 per cent of the friction head, causes an error

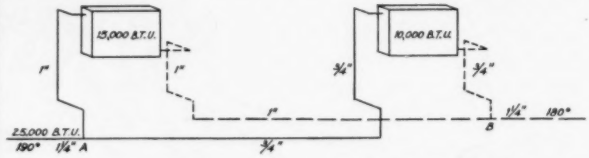



**Fig. 9—A small heating system with forced circulation to explain the effect of errors in the selection of pipe sizes**

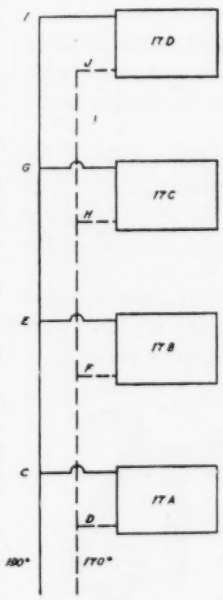
of only about 1 per cent in the heat dissipated by the radiators.

For complicated systems, like that shown in Fig. 5, which has 34 times as many circuits as that shown in Fig. 6, it would be quite difficult to calculate the effect of an error in the design of the pipe system upon the heat dissipation of the several radiators, but, from the above calculation for a simple system, it seems perfectly safe to conclude that if the pipe system is calculated so accurately that the calculated friction heads do not differ more than 1 per cent from those which will actually obtain in the system, the operation of the system will be entirely satisfactory and it is usually not necessary to secure greater accuracy by the introduction of diaphragm orifices. However, this statement applies only to forced circulation systems. For gravity circulation systems additional factors must be considered and the problems involved therein are more complicated.

### Balancing the Remaining Circuits

Having balanced the first floor radiators of the seventeen sets of risers so that the friction head of every circuit is practically 33½ inches, the friction heads of the remaining radiator circuits must be adjusted in a similar manner.

**Fig. 10—Flow and return risers Number 17**




Beginning with Riser *17* shown in Fig. 10 when the water has entered the flow riser and reached the point *C* it may flow through the first floor radiator and enter the return riser at *D*, or it may continue in this flow riser to the points *E*, *G*, or *I*, and flow through the second, third, or fourth floor radiators and enter the return riser at *F*, *H*, or *J*, respectively.

If the system is designed correctly, each of the four radiators will receive its proper quantity of hot water. This condition is attained when the friction head in each of the four possible paths (which the water may follow in flowing from *C* to *D*) is exactly equal to the pressure head available for those four paths.

From Table 4, we see that the friction head in the circuit of Radiator *17a* is 33,531 milinches and that 588

**(Continued on Page 91)**

# AUTOMATIC HEAT

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*In this Issue:*

Separating Steam and Water

Natural Gas and Fuel Fundamentals

How to Sell Stokers

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Survey Shows a Large Market for Automatic Heat

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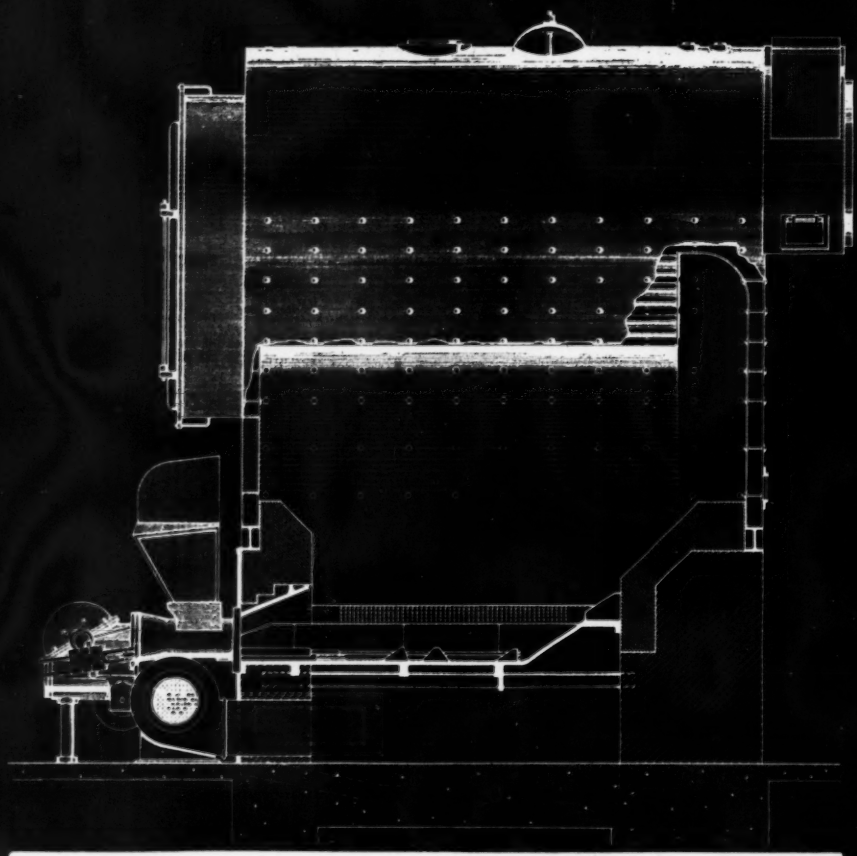

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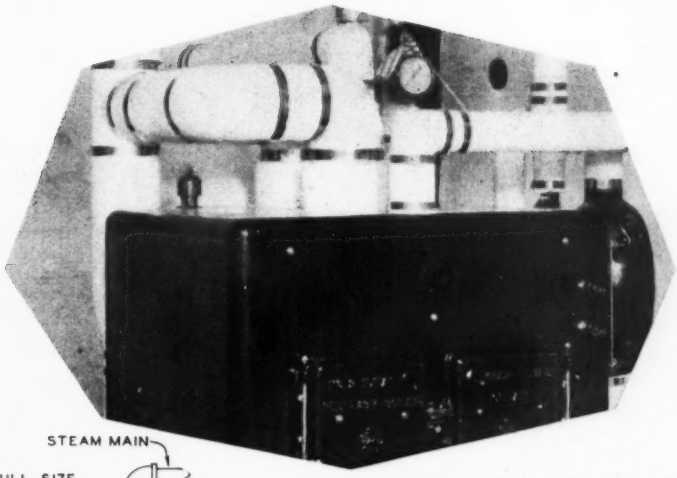
# Practical Piping Problems with Automatic Heat Equipment



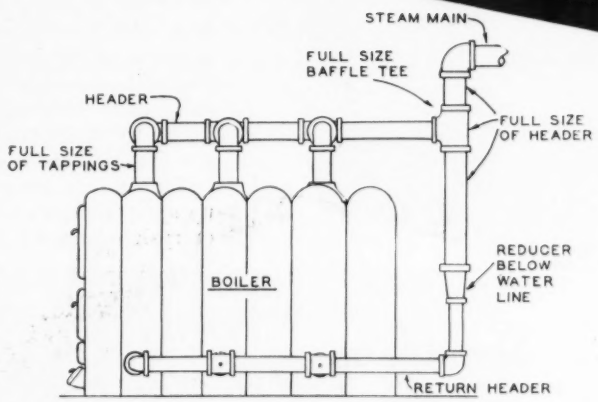



**Fig. 1—The drawing to the left shows a standard bleeder connection and the photograph above is a good view of a bleeder connection installed. Note that the return leg is reduced below the water line**

*By* EARL BROWN

OUR company has standardized more or less on the type of boiler bleeder connection shown in Fig. 1 because we believe it to be one of the best. However, we recognize that there are other methods which are equally good and we are perfectly willing to have them used where they fit in best.

We have used our standard method for a long time and have succeeded in having it understood by nearly all of the steamfitters in our territory. As a matter of fact, many of our steamfitter friends use this method on various types and makes of systems and do not want to use any other.

A few days ago I was in the office of a heating contractor in Rockford when Jones, one of his steamfitter foremen, walked in. As soon as he saw me he burst out, "You're just the fellow I want to see." Being an excitable person, he continued without waiting for a word from anyone, "I'm putting in a system across the street and some chump in the office had the boiler header cut according to his plan. The whole thing is wrong and I'll not put it in."

By this time he needed a breath, so I managed to say, "Wait a minute until I catch up with you." This slowed him down enough to permit me to get the facts from him.

This firm of heating contractors in Rockford makes a practice of cutting all of their long piping, particularly boiler headers, directly from working drawings made by their own draftsmen. On this particular job the boiler header was designed as shown in Fig. 2. Jones understood and liked our bleeder connection so well that he was sure any other was wrong or at least would prove unsatisfactory. I explained to him that this is a method

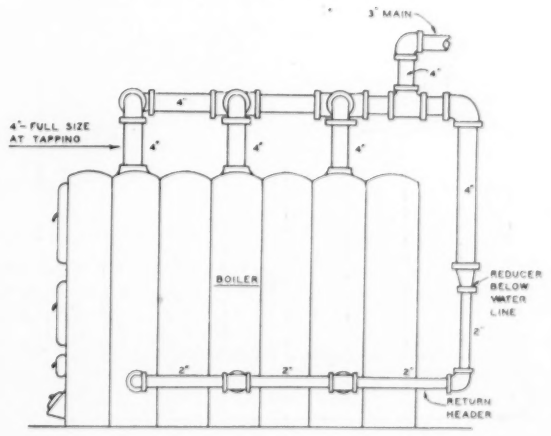
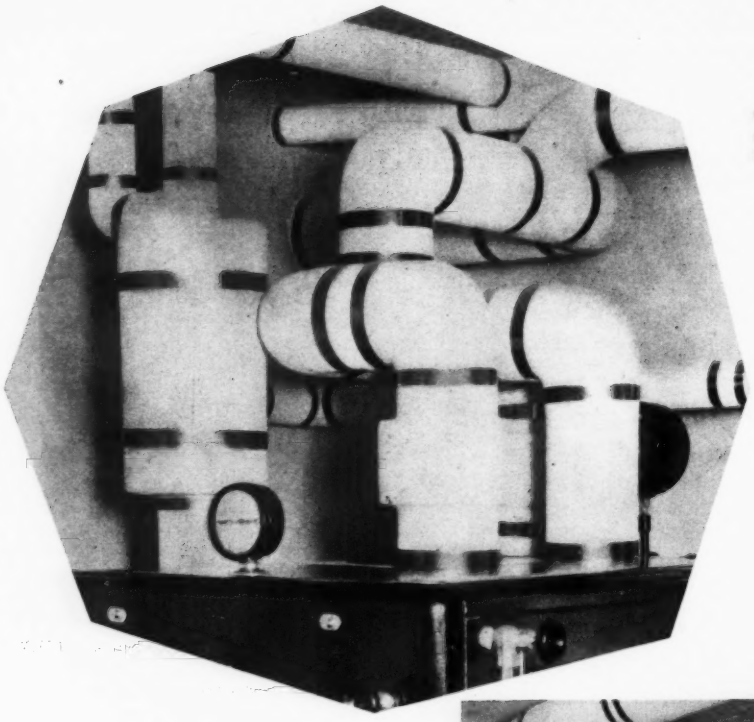



**Fig. 2—The steamfitter who installed this piping questioned whether it would serve as a bleeder connection**

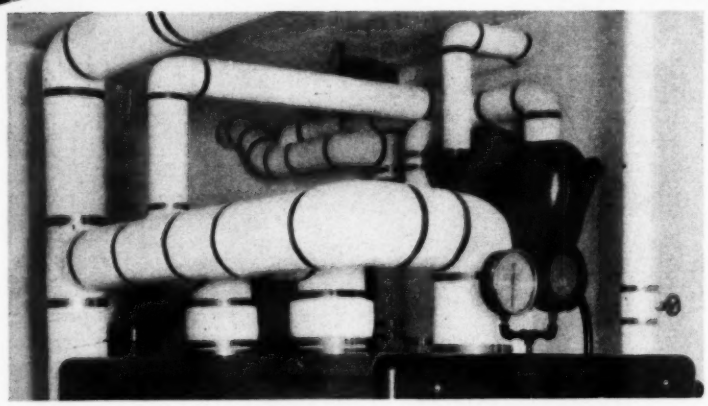
AUTOMATIC HEAT



This shows a connection similar to that sketched in Fig. 4. It is not effective as a bleeder connection

anxious to learn he asked me to explain this other bleeder connection to him.

The operation of the separator tee is shown in Fig. 5. The mixture of steam and water enters the tee from the header as shown. The water is in the form of small drops like rain. It is carried along with the steam because as soon as it drops to the bottom of the header the fast-moving steam picks it up again just as a strong wind will pick up spray from an ocean or lake and carry it inland for a long distance.



Note that the small riser taken off of the header, shown in the photograph at the right, is on the wrong side of the last supply connection into the header. Therefore, it is not a bleeder connection although the main riser is. Compare this with Fig. 5 and note the similarity

which we consider practically as good as our standard method as shown in Fig. 1, even though it works on a different principle. He was quite surprised by my statement, but as he was

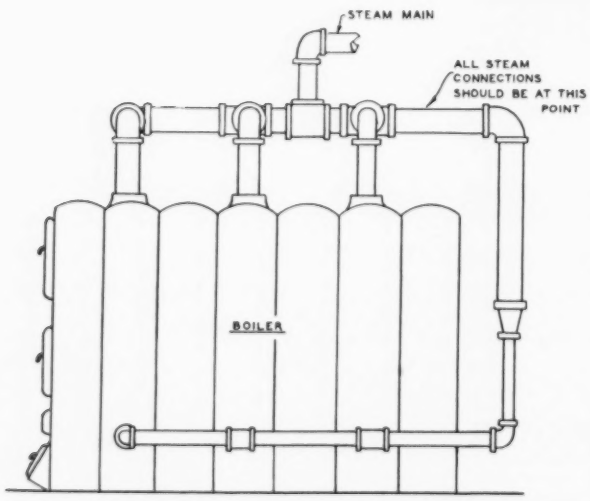



Fig. 3—When the steam connection is located as shown here, the water does not have an opportunity to separate from the steam because the steam is entering both ends of the tee

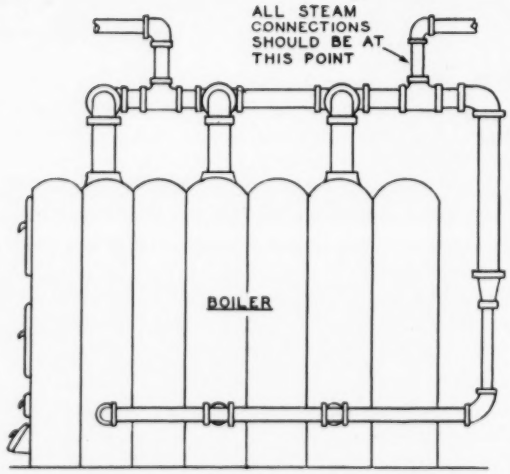



Fig. 4—Many steamfitters who do not understand the operation of bleeder connections and the separator tee make the mistake of installing the steam connection wrong as is shown in this drawing and in Fig. 3

However, when the mixture of steam and water enters the separator tee, something different happens. The steam is forced up into the main because the run connection of the tee leads back to the boiler. The steam easily makes this turn, but the water continues straight ahead because it is so much heavier. In this way the water is separated from the steam and is returned to the boiler.

We formerly used this type of bleeder connection,

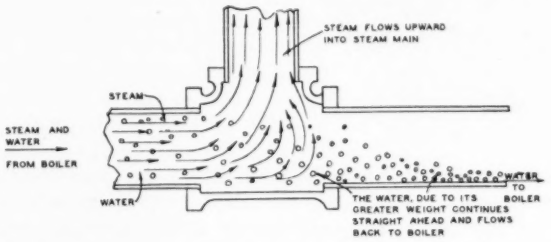

STEAM FLOWS UPWARD INTO STEAM MAIN
STEAM
STEAM AND WATER
FROM BOILER
WATER
WATER TO BOILER
THE WATER, DUE TO ITS GREATER WEIGHT CONTINUES STRAIGHT AHEAD AND FLOWS BACK TO BOILER

**Fig. 5—The arrows show how the water is separated from the steam in the bleeder connection shown in Fig. 2**

which we found very satisfactory when it was properly installed. But we did find this one objection to it: Many steamfitters who did not understand the operation of the separator tee made the mistake of installing the steam connection wrong, as shown in Figs. 4 and 5.

When the steam connection is located as shown in Fig. 4 the water does not have an opportunity to separate from the steam because the steam is entering both ends of the tee. As shown in Fig. 6, the water is carried into the main with the steam. When the boiler is operating at light load some water probably will separate from the steam and drain back into the boiler, but at full load this arrangement is almost useless.

For the same reason, the steam connection in Fig. 5 is

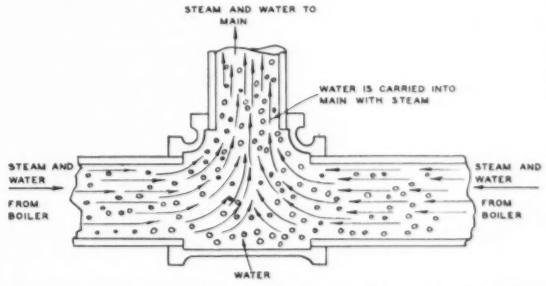

STEAM AND WATER TO MAIN
WATER IS CARRIED INTO MAIN WITH STEAM
STEAM AND WATER FROM BOILER
STEAM AND WATER FROM BOILER
WATER

**Fig. 6—This shows how water is carried with the steam when a riser is located between two supply connections into a header**

improperly located, while the rear connection is satisfactory. When two or more steam connections are needed they should be placed side by side in the same location shown in Fig. 2 in order that the water can be separated from the steam and returned to the boiler.

Jones seemed to be very much interested in this explanation, and he went back to his job in a much better mood than when he left it.

---

# Natural Gas and Fuel Fundamentals

## — *with specific application to Chicago*

*By* SAMUEL INSULL, JR.*

THE time has pretty well passed when we can look at one industry alone. Particularly in periods of recession, if not depression, we come to realize forcibly that we cannot consider one industry without considering the others affected by it. In an approach to any problem such as that of natural gas we must consider it not as an isolated phenomenon, but as one aspect of the fuel problem as a whole. I would try, in so far as I can, to deal only with certain fundamental considerations which, though they may be controversial in the construction which can be put upon them, are fairly well established in an isolated existence as facts.

On the one hand, I feel constrained to apologize for not having computations upon which to base any conclusions I may draw. On the other hand, I feel a good deal more comfortable because I have no computations, for two reasons: First, that all the computations I have seen so far on the natural gas situation as it affects Chicago, are in the formative, if not the controversial, stage. The second reason is that I will be forced to confine myself to economic facts, which are a good deal more in my field.

One trouble with the United States is that it has too much fuel. Let me illustrate. Three years ago this spring I came to have some contact with the Illinois coal industry. I then became convinced of the obvious fact that at that time if any Illinois coal company could average $2.25 in the cars for its mine run, it would probably be earning all the charges that it ought to set up on its books.

All of the Illinois coal industry, with certain notable exceptions where a particular circumstance picked the company out of the general run and made it an exception; in other words, where the general conditions applied—was then just barely getting along.

Now, at that same time, it was my good fortune to spend about two days in Essen, where I enjoyed a pretty close view of the German coal industry, which at that time was on a satisfactory basis. It was earning its senior interest, a fair depreciation and was paying dividends on its stock, in the face of the fact that the cost

* President, Midland United Co., Chicago. Address delivered before the Western Society of Engineers, in Chicago.

*"The time has pretty well passed when we can look at one industry alone. In an approach to any problem such as natural gas we must consider it not as an isolated phenomenon, but as one aspect of the fuel problem as a whole."*

of handling coal in cars at the mine head was $3.75 a ton; $3.75 a ton in Germany and the industry on a profitable basis; $2.75 here and the industry on an unprofitable basis.

Why that disparity in the face of a cost situation seemingly favorable to America? Just this, that the coal industry in Germany was based on a limited supply surrounded by a satisfactory market, whereas, in this country there was a satisfactory market surrounded by an unlimited or almost unlimited supply.

Now therefore, if it had not been for technical improvements in the art of transmission line building, and the discovery of natural gas not only in unforeseen quantities, but in unforeseen quantities per unit of production, natural gas would never have been much of a prospect for Chicago since the exhaustion of what we might, in the national sense, term fields local to Chicago.

From that point of view of the balance of supply and demand, there was no necessity for the bringing of natural gas into Chicago. On the other hand, the discovery of the resource natural gas in quantities heretofore unsuspected and in unit production of sufficient size to bring production cost down materially—those two facts, coupled with improvement in the art of transmission, alone made natural gas a prospect for Chicago.

You might ask why natural gas, therefore, was brought here at all. This, I think, is the reason: The gas was in Texas. It could be gotten out at a reasonable price. Producers were bleeding it and wasting it into the air, and manifestly, being furnished with the means of conducting it to a market, thither it was going to be conducted somehow. So that we have this paradoxical situation where we are bringing more fuel into a market, which from the point of view of the fuel industry, is suffering from an over-production.

Now, in the good old days, if an industry were in trouble and had to dump its goods, that was a matter of congratulation on the part of all those altruistic gentlemen who bought the goods. They just squeezed the fellow as long as they could and as hard as they could and got the lowest price.

Now, I am not implying, and I hope to correct any impression in that direction, that the advent of natural gas into Chicago is going to wreck or even seriously damage other fuel businesses. But we must recognize that the time is past when we can sit back and say, "Here is something that is going to beat the price of fuel down. Isn't that lovely?" We have seen on so many sides, and the matter is not only one of general remark but one of specific recognition, that if any industry in a community is seriously out of joint the whole community will be adversely affected. Somehow the infection will spread.

It would have been an unthinkable thing twenty years ago that the governor of Illinois would, with the support of the people of the state, appoint a commission which would encourage the sale of the product put out by one of these terrible things, a corporation. Yet without any of us remarking it, we must recognize that for the past three years, I think, the Illinois Products Commission has been actually doing that thing. It has been trying to sell a great many Illinois products, among them some fuel.

No doubt some of you thought I would be rash enough to tell you just what natural gas would be sold for in Chicago. As I have said, I don't know; although I would say it cautiously, I don't think anybody knows, including all the people who think they know. I don't think anybody can afford to "go short" on a thousand miles of pipe line construction.

That is what an attempt to say now what natural gas landed in Chicago would cost would amount to, and, of course, it will have to be sold for pretty near the cost, allowing for the earning of the proper fixed charges. So I am going, if you want to accuse me of it, to dodge the whole question. I don't regard it as dodging it. I regard it as having the frankness to face the fact that we don't know exactly what this figure is going to be.

We know certain things, however. First, that natural gas is going to cost three to four times as much to get to Chicago as those prices which we have known in the past as normal field prices for natural gas. That is an involved statement, but let me explain why I make it that way. We can't quite say what it is going to cost to produce gas under these new conditions.

First, there is the question of load factor, which is a new one. Second, we are in some untried territory, so that we can't talk in terms of the field cost. But, if—and I doubt they will be—the field costs were to be the same as they had been in the past, we would know that it would cost at least three to four times as much to transport gas from Texas to Chicago as the old cost of production in the field.

The second thing we know is that practically all those transportation costs are per annum, whether they are interest and depreciation, which are properly called fixed charges, or operation. Attendance and maintenance will both be practically fixed. So that this whole cost is vastly larger per annum than any cost of which we have

thought in connection with natural gas before. In reducing this annual cost to a cost per thousand cubic feet, we will be faced with the importance of the load factor, with a computation of the effect of that load factor or rate of average use upon the cost, which we have never been faced with before in the gas business, nor, to my knowledge, in any other.

You hear more about the load factor in the electrical business than anywhere else, but even in the electrical business a company whose fixed expenses are equal to all its other expenses is going pretty high, whereas, here we have a business whose fixed expenses are likely to equal 80 per cent of its total outgo.

Now, what is going to be the effect? In the first place, natural gas is not going to be God's free gift to man when it gets to Chicago. The sooner we face that situation the better. Manifestly, the investment in the pipe line will have to earn its fair return. That is to say, the fixed charges on it and a retirement of the pipe line over a reasonable period of time, the period being, as near as we can guess it, the life of the field. The existing facilities already installed will also have to continue to earn their fair return, and I am perfectly willing to admit that from there on the public is the residuary beneficiary of the whole transaction. That is to say, after the new investment used for bringing the natural gas to Chicago has earned its fair return, after the existing investment has earned its fair return, the public will get what is left, after the producer has been paid for the product, but there are other costs in the meantime which must be met.

Now, there are four parties at direct interest in this transaction. Previous remarks cover two of them and a part of the third. First, the pipe line, which will get its reasonable charges, and you must recognize in figuring those reasonable charges that the investment in that pipe line is subject to a good many risks and will have to be retired over a pretty short period.

Secondly, the existing companies will get their fair return, but no more.

Third, is the question of the public, which must be subdivided for the purpose of this consideration.

Fourth, is the question of the producer. Lastly, there is a party with a collateral interest, namely, the other fuel suppliers.

The third group enumerated the public, I would again like to divide into four classes.

First, the domestic consumer of gas other than house heating will not get much benefit out of this situation. I think anybody with any touch with the gas business, whether from the outside or the inside, is pretty well convinced that the small domestic consumer just about pays his way, and in most cases barely so; the reason being, of course, that the actual gas he uses is a very small part of the cost of serving him. You have the reading of the meters, the maintenance of the mains, and so on, which again go on at so much per year. So that, even if natural gas were to be greatly reduced in price, you would only be affecting in the total about 20 per cent to 25 per cent of the items which go to make up the cost of serving the domestic consumer, and therefore, any saving that comes from natural gas, great or little, will only affect the domestic consumer to the extent of one-fifth or one-quarter in the saving of the gas itself.

Now, as to the second part of the public. I have already tried to indicate that when it comes to the industrial market, natural gas will have to meet some pretty stiff competition. Presumably, there are some coal men here; sometimes I am one myself, and I can tell the gas men that the coal people are thinking very fully about this situation.

It is perfectly obvious that if natural gas goes into industry it is going to encounter price competition. Natural gas is going to get some of the business, and I think that it is going to get largely those businesses where a solid fuel has a physical drawback. I admit quite frankly that, with a large, efficient boiler plant, gas at the lowest figure that has been guessed at can't be landed in Chicago for less than twice its worth to be burned under those boilers—that is, with a large efficient boiler.

Of course, the ratio goes all the way down to the small very inefficient boiler, where gas can be landed here probably for considerably less than it is worth for the greater ease of burning a gaseous fuel. But that one fact gives us pause. It is an additional base upon which to stand our judgment that natural gas for straight boiler operation is going to have pretty hard going. Most boilers are pretty efficient nowadays, and in the efficient boiler the solid fuel has not the relative disadvantage that it has in the inefficient boiler, so that I think you can sum it up by saying that from the point of view of the industrial consumer he is not going to get much price benefit out of natural gas. Where solid fuel is an impediment to him, he is going to get for nothing prob-

*"Natural gas is not going to be God's free gift to man when it gets to Chicago.... After the new investment used for bringing the natural gas to Chicago has earned its fair return, after the existing investment has earned its fair return, the public will get what is left, after the producer has been paid for the product."*

AUTOMATIC HEAT

# In Length and Brea

For thirty years—since 1901—George A. Bryan, President, Bryan Steam Corporation, has had actual, first-hand experience in oil burning. He has designed, tested, installed, operated and supervised oil-burning equipment for railroads, mine smelters, roasters and for steam automobiles and tractors.

Out of this experience came the

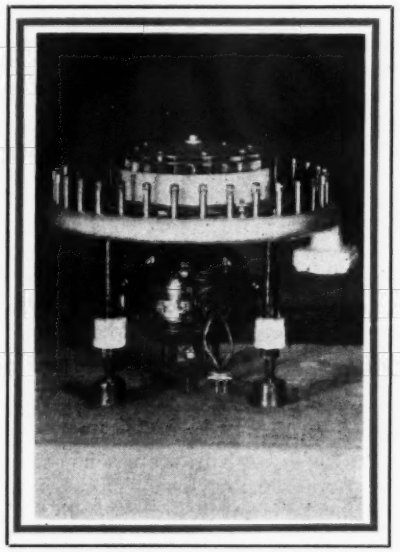
## BRYAN BOILER--

used from Coast to Coast and abroad. Since the advent of the domestic burner, Mr. Bryan and his associates have had such a breadth of experience adapting almost every burner manufactured to the Bryan Boiler that they feel qualified to design a burner ideally suited to this boiler.

# dth of Experience--

AUTOMATIC HEAT

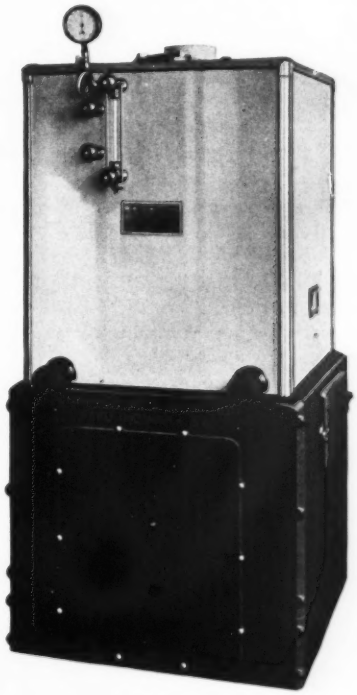
**The BRYAN BURNER is a natural result of the popular and highly efficient vertical rotary type, it burns No. 2 oils or gas with the high combustion efficiency demanded by the BRYAN BOILER. It will be sold through a BRYAN BURNER dealer organization with exclusive franchise.**



*Bryan Gas and Oil Burner*

**The BRYAN BOILER will be sold through regular non-exclusive channels—heating contractors and jobbers, many of whom now are valued BRYAN customers.**

**BRYAN BOILER-BURNER units are offered to the trade in the belief that nothing higher in efficiency or quality is available.**



*Bryan Boiler for any oil burner or as a unit with Bryan Gas and Oil Burner*

*Full Information Upon Request*

## BRYAN STEAM CORPORATION

PERU, INDIANA

ably the advantage of swinging over to a gaseous fuel. Or he is going to get it for a price in the form of increased cost of fuel, which is low in comparison to the advantage.

The gas man, however, must recognize that there are several pretty effective small stokers being developd, and that they may be accelerated in their development by the advent of a competitive, cheap, convenient fuel, so that gas won't get the business. However, from the point of view of the consumer, the effect will be about the same. He will either be able to get gas at a price better than it is now given to him, or as a result of that gas competition, if he keeps on coal he will get a similar benefit with coal due to the development of new equipment.

Now, there is a third group of the public, namely, the potential user of house heating. He will, I believe, be the principal beneficiary of all the people I have mentioned so far and for this reason, as all of us know, the householder has not an unlimited source of capital. If you go to a corporation which is in good financial condition you can generally sell it on anything where the economy more than equals the interest and write-off on the means of using the new product. But with the householder that is not so, because he must earn back any capital expenditure he makes very quickly. That is to say, the private householder can't go back to the treasurer's office and get the price of a gas conversion or a gas boiler by signing a voucher.

If, therefore, gas househeating is to appeal to the householder by some means it is going to have to earn him back his capital investment very quickly. From his point of view, after two or three years of paying himself back, he is going to have the benefit of gas house heating for a considerably less amount than the normal premium.

Now, you might say, why this anxiety about the householder and domestic heating? It is simply this: the domestic heating game is the small boiler game. Compared to the big industrial boilers, small boilers are less efficient for solid fuel. With the bigger boilers gas has a hard time to fight solid fuel. By a process of elimination it must go principally for the domestic fuel market, if that market were not in definite prospect the new pipe line could never be built.

So that, with those three people in the inverse order, the householder, the industrial consumer and the domestic consumer other than house heater we have dealt with the public, and that leaves us the other fuel people.

Now, a great deal of the fuel that comes into Chicago, both coal and oil, comes in for a specific reason. Oil is needed for some particular process. A certain kind of coal is needed for a metallurgical process, and so on. We must remember that none of those processes will be affected by natural gas at all. In considering the effect of natural gas, we must recognize that the rest of the fuel industry not only has a right to live, but is in just as good a position to put up stiff competition as gas is. The rest of the fuel industry is probably going to lose certain domestic business and it is probably going to lose certain business where a solid fuel is an impediment, a classification into which, from a certain point of view, the domestic business comes, because of the consideration of efficiency. But outside of that, the rest of the fuel business is not going to be demoralized, although it will be affected by natural gas.

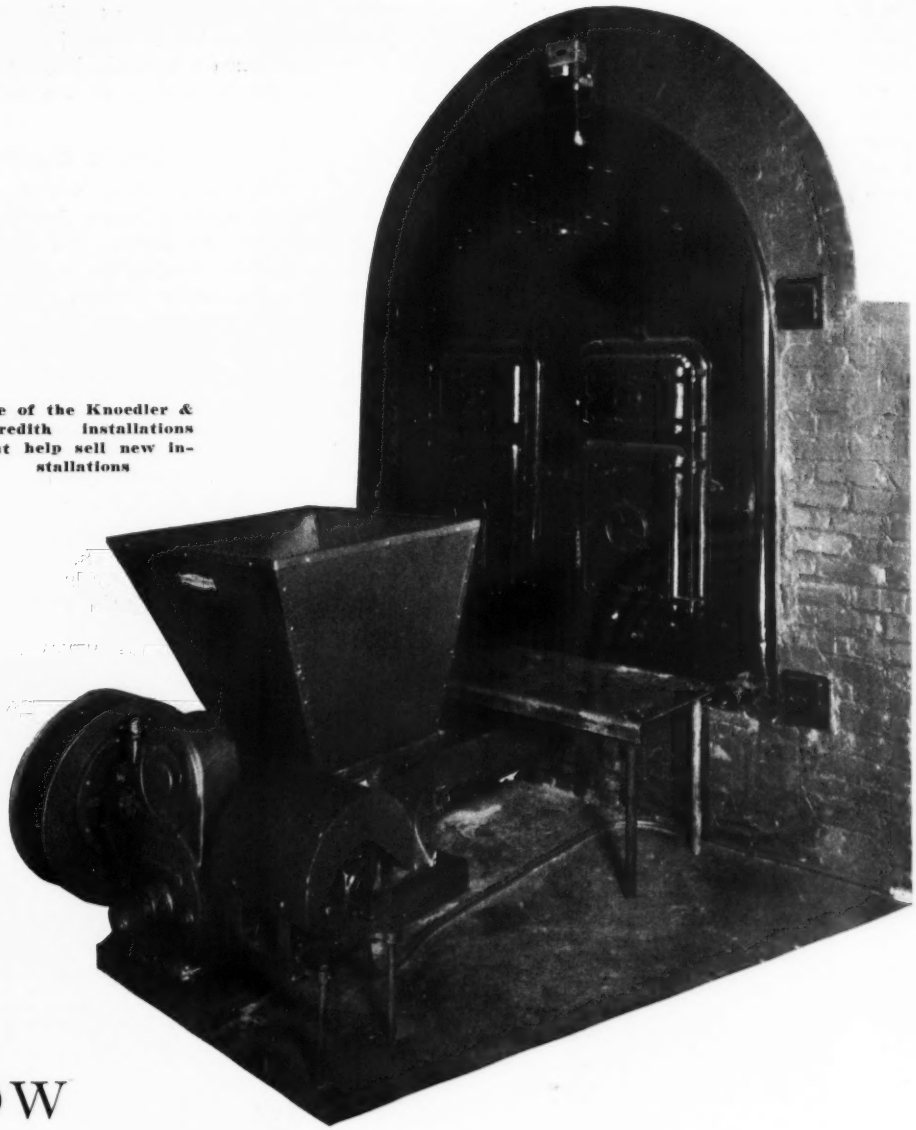
Now, in conclusion, I'd like to try and summarize this matter. At the outset I apologized, but also expressed my gratification that it was impossible to talk about definite figures, because the figures will not be definite until the costs of the line are determined. I also tried to point out that in this day in industry you must consider any isolated phenomenon as a part of a bigger problem of the industrial whole.

Considering the natural gas situation, therefore, as a part of the fuel problem as a whole, we come down to this situation at the present time, that the natural gas pipe line will earn a fair return, the same kind of return that capital put into other industries having the same financial characteristics would earn, no more and we hope no less; that the existing distribution companies will earn upon their existing facilities about what they are now earning; that the public must be considered under three separate heads, first, the purely domestic consumer, who because gas itself is so small a portion of what he pays for, will not benefit much; the industrial consumer, who will probably not benefit much except in operations where a solid fuel is an impediment, and he must now pay a big premium to avoid a solid fuel. He will secure a non-solid fuel without the proportionate premium. Thirdly, the householder who because he is so necessary to this picture, who because his equipment falls into the class of service that natural gas can appeal to, and because of his own financial problem, which you must solve in advance if you are to secure him, the domestic householder will benefit.

You come to one other class whose position is obvious. The producer in the field will benefit because he will be selling something that he is now throwing away, and in the final analysis you come up against the rest of the fuel industry. The medicine is never as bad as it is suposed to be. Competing fuel business will undoubtedly be affected, but in no disastrous or fundamentally serious degree.

We therefore come to the conclusion that natural gas is not yet one of God's free gifts to man, that you have got to pay those people for putting the covering on the pipe, and you have got to pay a host of other people and the money has to come from somewhere. To sum it all up, there are a great many people who will be no worse off than they were before as a result of natural gas, but there are only two classes who will be distinctly benefited, namely, the producer in the field and the consumer of domestic house heating, with a kind of secondary benefit to the user of fuel in process work where solid fuel is a detriment.

*"There are two classes who will be distinctly benefited, namely, the producer in the field and the consumer of domestic house heating."*



One of the Knoedler & Meredith installations that help sell new installations

# How To Sell the Stoker

*as told by a successful plumbing and heating firm in the Southland*

TWO full time salesmen are engaged in selling automatic stokers for Knoedler & Meredith, plumbing and heating contractors of Chattanooga, Tenn.

Prospects are located by direct mail, telephone, and personal calls. Also the novel method of display, in which the stoker, mounted on a low platform and placed on the sidewalk in front of the shop, brings numerous inquiries from interested passersby, who may help themselves to the literature on top of the stoker. Customers, too, are used to secure leads to prospective purchasers. Another method of display which was found to be profitable, was the installation of a stoker in a "model home," where the stoker is allowed to remain until sold. Newspaper advertising, with illustrations of actual installations is used.

### Sell Better Class Homes

The largest field for sales has been found to be the high priced home, and these sales are usually on a cash basis. Only about 25 per cent of the jobs are

on a time payment basis. No work is undertaken until a thorough credit investigation of the prospective purchaser has been made.

Of the two salesmen engaged in selling these stokers, one is a practical heating engineer, with six years' selling experience, the other has only recently started with the firm and is without selling experience as far as stokers are concerned.

### Paying the Salesmen

The trained man receives a straight salary for his work, while the other salesman is operating on a commission basis. The new man is receiving training from the experienced salesman, and both follow manufacturers' literature for technical knowledge. Demonstrations are made from actual jobs, of which there are several, both industrial and residential, in the immediate neighborhood of the shop.

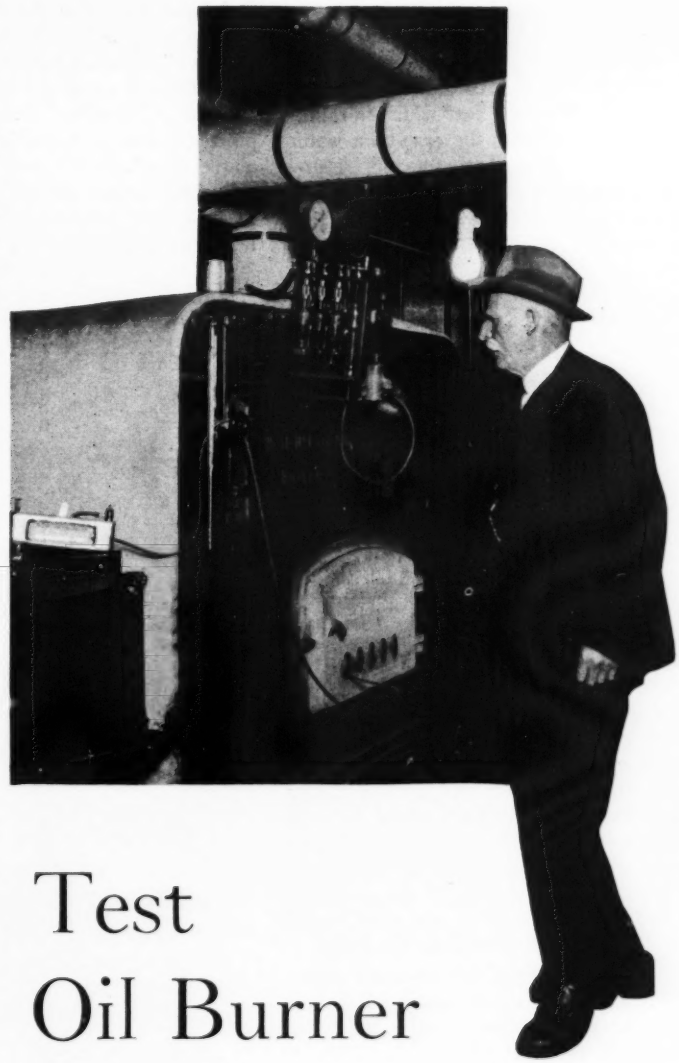
The strongest closing arguments in the sale of the stoker are a saving in coal cost between 25 to 40 per cent over hand fired coal and the fact that it is much more efficient than hand firing, gives a more uniform heat, and is far less trouble. The saving in coal cost is not as marked in a small tonnage residence job as in a high tonnage industrial job, but this is almost entirely due to the inefficiency of the average residential heating plant.

### Care in Checking Plants

The heating plants are checked before the installation is made to insure that the capacity of the stoker will fill the needs. On heating jobs the check is made by counting the radiation or load, and calculating the boiler rating. The boiler rating is then checked against the load, and the stoker is chosen to fit the larger of these two.

On industrial jobs, where the load is not to be expressed in feet of radiation, they determine the amount of coal consumed during a "shock load," (the most extreme day) and select a stoker which will feed a slightly greater tonnage than is actually demanded. In other words, they oversize all installations between 20 and 25 per cent as a safety factor.

*View of the staff of Knoedler & Meredith. The stoker in the entrance is mounted on a movable platform. It stands outside for those who wish to see — with literature for all who desire it*



**There are many instances when it is necessary for the so-called practical man to determine the overall efficiency of operation of an oil burner and boiler combination**

# Test Oil Burner Efficiency

*Practical methods which every contractor can use in checking his oil burner installations*

By A. H. SENNER

MOST of us speak fast and loose about the term "efficiency"; for example, we frequently say that we believe a certain burner is more efficient than another burner. Just what do we mean when we thus discuss the relative merits of the different products? The reference is sometimes further complicated when someone injects into a discussion the phrases "combustion efficiency" or, "overall efficiency." Now, while perhaps not all of us could define the above terms in precise scientific language, we do, however, have the feeling that percentage of efficiency has some direct bearing on the degree of perfection as regards the economical use of fuel by the particular burner under discussion, and rightly so. When a more detailed and minute analysis of the terms is attempted we may acquire the uneasy feeling that a lot of latitude may come into the discussion unless considerable understanding is had beforehand relative to certain factors. Let us consider for example the concrete case of an oil burner operating in a steam heating boiler. By actual test, the burner is consuming 2.75 gallons of oil per hour and 60.5 per cent of the heat which is contained in the oil is being passed into the steam which is delivered to the radiators. But, about 4 per cent of the heat which is being evolved by the combustion of the oil passes from the surface of the boiler direct into the basement, and, unless the cellar is

overheated by this heat so emitted by the boiler, it certainly should be considered useful heat. Most laboratory tests, however, do not include this heat which passes from the boiler when the efficiency is reckoned, but rather credit the burner and boiler with only that heat which is represented by the steam generated or in the case of a water system by the temperature rise of the water passing through the boiler. Strictly speaking, the over-all efficiency of an oil burner and boiler is the percentage of the heat in the oil which is evolved and transmitted to

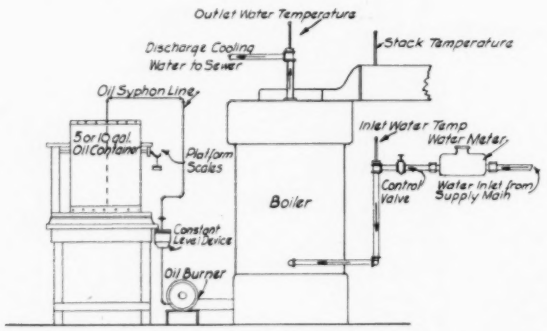



**Fig. 1—The methods of testing oil burners combined with boilers described in this article may be visualized by this sketch**

the heating medium in the boiler regardless of whether it be a water, steam or vapor system. Thus, when it is stated that the efficiency of a certain burner and boiler is 60 per cent we mean that 60 per cent of the energy contained in each gallon of oil is transmitted or converted into useful heat for maintaining the desired temperature of the house. Numerically, since there are approximately 140,000 B.t.u. per gallon of the ordinary domestic fuel oil, an efficiency of 60 per cent would mean that 84,000 B.t.u. are utilized to heat the house.

It is most unfortunate that we direct so much attention to the burner when discussing efficiency when as a matter of fact the boiler plays an enormously important role in the utilization of the heat of the oil. Then it might logically be asked, is there no such thing as burner efficiency? This leads directly to the term referred to above as "combustion efficiency," which is perhaps the best index of the efficiency of the burner itself,—although strictly speaking, even this factor cannot be definitely divorced from the combustion space, which is to say, the boiler. It is perhaps easy to understand that the degree of preparation of the oil for combustion may be vastly different with burners of different design. The atomization may be more complete in one case and the mixing with air may be somewhat more complete and effective. It follows then, that the degree of completeness of combustion in the boiler may be widely different for different types of burners. It may be of interest to the reader to know there is actually a wide divergence in the completeness of combustion realized with the various burners produced today. Consider again the burner referred to above in which the overall efficiency is 60.5 per cent. With this burner an analysis of the flue gases and subsequent computations indicated that 7.6 per cent of the heat in the fuel was not evolved because of incomplete combustion. Many burners today are operating with even a greater percentage of unburned fuel. If 7.6 per cent of the heat is not evolved, it might be said that the combustion efficiency is then 100 minus 7.6 or 92.4 per cent. Many experimenters refer to combustion efficiencies of 90 per cent with the implication that the burner is doing very well under such conditions, but when the reader realizes that this means 10 per cent of the fuel is passing up the stack, the performance is seen to be not so good. It is my opinion that many of the leading producers of oil burners today would be in for an unpleasant surprise if they went to the trouble to analyze carefully the combustion attained in the installations of their products. From the above discussion it should be plain that we, when referring to efficiency, generally have in mind the over-all efficiency of burner and boiler without any specific reference to the degree of completeness of combustion.

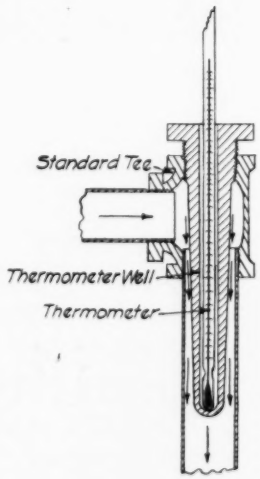



**Fig. 2—This drawing illustrates the construction of a thermometer well used for taking temperatures**

Now it is entirely conceivable that the average oil burner heating contractor may never be confronted with the problem of testing an oil burner and boiler for over-all efficiency. However, there are many instances in which it is necessary for

Date 11-14-30.—Boiler S-2206.—Burner "Blank" Special.

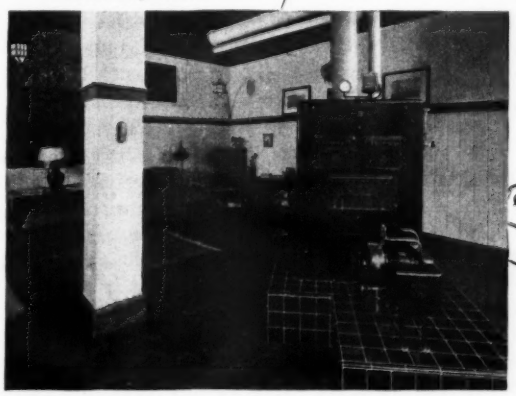
| Time | Temperatures | | | | Oil Scales | | Water Meter | | $CO_2$ | $O_2$ | CO | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Room | Inlet Water | Outlet Water | Stack | Weight | Diff. | Reading | Diff. | | | | |
| 12.30 | 63 | 56.0 | 127.0 | 415 | 39.5 | | 507.1 | | 12.4 | 3.8 | 0.0 | |
| 12.40 | | 56.0 | 129.0 | 415 | 37.4 | 2.1 | 514.2 | 7.1 | | | | |
| 12.50 | | 56.0 | 130.0 | 415 | 35.2 | 2.2 | 521.2 | 7.0 | | | | |
| 1.00 | | 56.0 | 130.0 | 415 | 33.1 | 2.1 | 528.2 | 7.0 | 11.8 | 5.2 | 0.4 | |
| 1.10 | | 55.5 | 129.5 | 415 | 31.0 | 2.1 | 535.3 | 7.1 | | | | |
| 1.20 | | 55.5 | 129.8 | 415 | 29.0 | 2.0 | 542.5 | 7.2 | | | | |
| 1.30 | | 56.0 | 130.0 | 413 | 26.9 | 2.1 | 549.7 | 7.2 | 11.8 | 5.4 | 0.6 | |
| Average | 63 | 55.9 | 129.3 | 415 | | 2.1 | | 7.1 | 12.0 | 4.8 | 0.3 | |

AUTOMATIC HEAT

# "But let Mr. Rice tell the story himself"

MR. WALTER C. RICE, PRES.
TUCKER & RICE, INC.

SHOWROOM
TUCKER & RICE, INC.
WORCESTER, MASS.



TUCKER & RICE INCORPORATED
Established 1847
Nothing too large—Nothing too small
PLUMBING-HEATING ENGINEERS & CONTRACTORS AND SPRINKLER
Main Office
165 COMMERCIAL STREET
WORCESTER, MASS.

June 9, 1931.

Mr. E. M. Fleischmann,
Pres., May Oil Burner Corp.,
Baltimore, Md.

Dear Mr. Fleischmann:

Just having completed our first year as Quiet May Distributors, we believe it an opportune time to thank you for the splendid co-operation we have had from you.

It is gratifying to know that we have a manufacturing organization back of the product we sell, capable of rendering the type of assistance in Sales, Advertising and Engineering, that we have had. It is our opinion, based on a good many years experience, that the type of assistance we have had from all departments, is second to none in the Oil Burner Industry.

While we have never had occasion to place a cash value on our Quiet May Franchise, we certainly consider it a very valuable asset to our Business.

This fact is best brought out in expressions of confidence and satisfaction coming to us direct from our customers who are doing a splendid job of making our present year very successful.

Again we wish to thank you for the splendid co-operation you have given us in your efforts to make our efforts successful.

Very cordially yours,
TUCKER & RICE, INC.,
By Walter C. Rice
Walter C. Rice, Pres.

WCR/FG

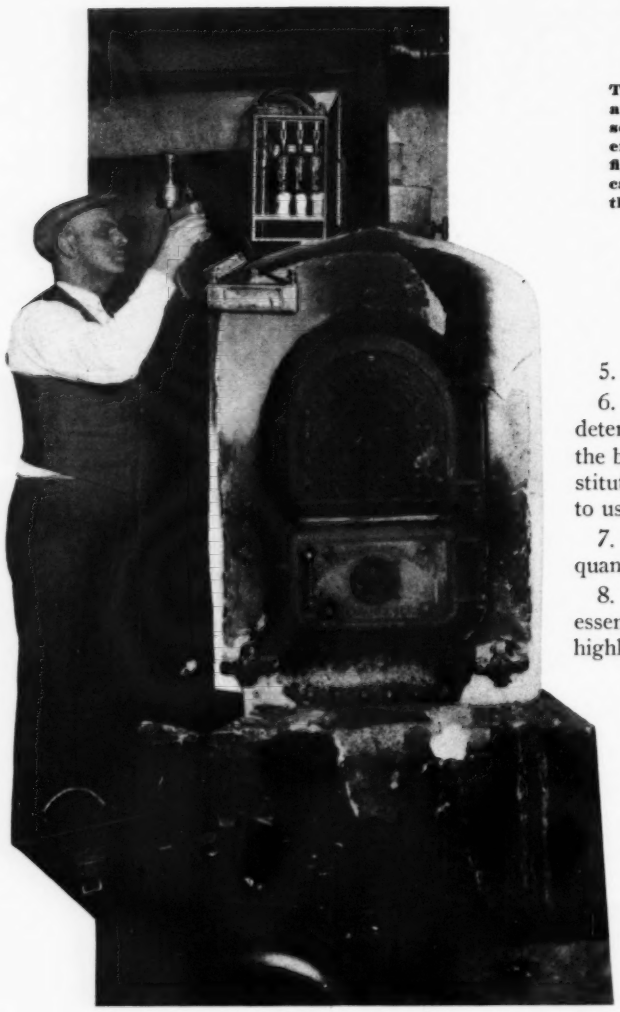
QUIET MAY AUTOMATIC OIL BURNER

THERE'S the answer for anyone who wants to get into the oil burner business—the valuable, profitable QUIET MAY franchise—the full support of a company that knows how to support. If you are looking for a real oil burner franchise, address:

NEW BUSINESS DIVISION, MAY OIL BURNER CORPORATION, BALTIMORE, MARYLAND

# QUIET MAY
## *AUTOMATIC* OIL BURNER

AUTOMATIC HEAT



**The methods described in this article represent a most practical scheme for the determination of efficiency which should prove sufficiently accurate for all practical purposes. The photograph to the left shows a test being conducted**

the so-called practical man to determine the efficiency of operation. For example, frequently consulting engineers will incorporate certain minimum requirements as to efficiency in their specifications; in this case it may be well for the contractor to know when he is getting a fair deal in the guarantee test. There are various schemes for testing oil burners, but most of them are tedious or subject to inaccuracies which should be evident to the experimenters, but frequently are not. The method generally employed is to weigh the amount of steam generated. This scheme, however, involves certain complications and also requires more tedious technique throughout.

The following method, which can best be visualized by reference to Fig. 1, represents, to my mind, a most practical scheme for the determination of efficiency, which should prove sufficiently accurate for all practical purposes. The following apparatus is required:

1. One ordinary room temperature thermometer.
2. One test thermometer for inlet water temperature, 0-100 degree F. range.
3. One test thermometer for outlet water temperature 0-220 degree F. range.
4. One standard stack thermometer.
5. Two thermometer wells.
6. One water meter of suitable capacity for determining the quantity of water passed through the boiler. Weighing tanks and scales can be substituted for the meters, but it is perhaps simpler to use the meter.
7. One small platform scale for weighing the quantity of oil consumed.
8. One flue-gas analyzer. (This is really not essential for determining the efficiency, but it is highly desirable in making a heat balance for the purpose of checking the accuracy of the work.)
9. A hydrometer is desirable in order to determine the A. P. I. or Baume gravity of the oil. From a knowledge of the Baume gravity, sufficiently accurate knowledge of the calorific value can be obtained. (See Fig. 3.)

The one piece of equipment which may not be readily available and familiar to the average practical oil burner man is the thermometer well. The thermometer well is merely an accessory which permits a rather accurate determination of the temperature of a medium which is not directly in contact with the thermometer bulb. The construction of a thermometer well can be seen by reference to Fig. 2. The well, which is several inches in length, is screwed into the pipe line so that it projects into the water stream rather deeply. The thermometer well is then filled with heavy oil or mercury and the thermometer is placed into this fluid. It is important to select wells of sufficient length to project deeply into the pipe and also important to maintain an adequate quantity of liquid in the thermometer well. Mercury is preferable to oil because it does not evaporate readily, although it is obviously much more expensive. Thermometer wells can be purchased from companies manufacturing scientific apparatus or they may be made by any mechanic. Thermometer wells are most commonly threaded for ¾-in. or 1-in. pipe.

The technique required for an efficiency test with the above scheme is simple in the extreme. With the burner operating at the desired rate and the controls so set that continuous operation is feasible, the test procedure is as follows: Adjust the water quantity so that the outlet water temperature is approximately 120 deg. Fahr. to 130 deg. Fahr. and maintain a constant outlet water

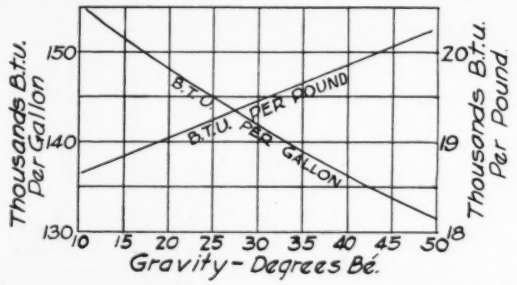



**Fig. 3—This chart gives the relation between Baume gravity and the calorific value of the fuel**

temperature by controlling the water rate. Then, with the various instruments in place, readings can be started. The burner should preferably be permitted to operate for a considerable length of time, perhaps an hour, before the initial readings are made.

If conditions are constant, that is, if the preliminary adjustments have been made effectively, and if a sufficient length of time has been allowed for the temperatures and water and fuel rates to become uniform, one hour should be sufficient length of time for the test, although there is certainly no harm to be done by extending this period somewhat. The above data sheet contains actual test figures from an investigation.

The readings of temperatures, oil and water quantities are made every 10 minutes, while the flue gas analyses are made three times during the hour, at the beginning and end and at the half-way mark.

The computations for efficiency are very simple. The first step is to average the data and to compute the quantities of water and oil.

The efficiency of the burner has been defined above as the percentage of the heat energy of the fuel which is evolved and transmitted to the heating medium. In the particular test layout shown in Fig. 1, the heat transmitted to the water, neglecting that which is lost from the boiler surface by radiation, is represented by the temperature rise of a certain quantity of water as indicated by the water meter readings. The heat which is put into the operation is represented by the total calorific value of the oil burned. Expressed mathematically, the heat absorbed by the boiler is the product of the weight of water passed multiplied by the temperature rise and this in turn multiplied by the specific heat of water. In actual figures from the above test, the hourly absorption of heat by the boiler water becomes:

$6 \times 7.1 \times 62.5 \times (129.3 - 55.9) = 195{,}428$ B.t.u.

Similarly, the total heat input is equal to the calorific value of the fuel in B.t.u. per pound multiplied by the number of pounds of oil consumed per hour. The particular fuel used was a 38° Be. fuel for which from Fig. 3 the heat value is found to be approximately 19,750 B.t.u. per pound.

The total hourly heat input then is equal to $2.1 \times 6 \times 19{,}750 = 248{,}850$ B.t.u.

The efficiency accordingly is equal to the output divided by input or $195{,}428 \div 248{,}850 = 79$ per cent approximately. The computations required for a complete heat balance are somewhat more detailed. The results of these computations can, however, be embodied in simple curves which are readily employed.

AUTOMATIC HEAT

JOHNSTON BOILERS

FOR ALL TYPES OF BUILDINGS

Johnston Steel Heating Boilers are made in sizes and types for industrial plants, schools, hospitals, garages, office buildings, stores, theatres, club houses, apartment buildings.

Owners, architects and superintendents of buildings of the above kind testify to the heating efficiency and fuel economy of Johnston Steel Heating Boilers, boilers incorporating the results of 65 years of boiler building experience.

Make a memorandum now to get the Johnston proposition when next buying or specifying a boiler . . . and write today for a Johnston catalog.

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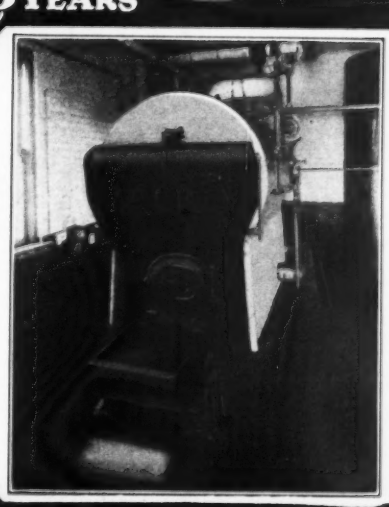
BOILER BUILDERS for 65 YEARS



# What *a* Market Survey Showed

IN these quotations from the report of our Marketing Staff, are the reasons which led us to believe that we are facing an era when that market can be sold with greater ease than ever before: "Only a matter of months back, automatic heat was not yet ready for such concentrated attention by the heating trade as the pages of 'Automatic Heat' will bring to it. There were several reasons why this was true. One of these was that automatic heat had not as yet emerged entirely from the experimental stage. More than 2,000 different makes of oil burners, for instance, were offered to the public in the past ten years. The fittest have survived and have brought their burners to the stage of perfection that warrants greater selling effort and wider public acceptance.

"Until recently, gas for fuel, except in the natural gas areas, was largely out of question. Its cost was too great even though its convenience and comfort would seem to warrant it. Now, however, the natural gas lines from the natural gas countries are ploughing ahead, mile over mile, toward the larger centers of population. Within a few years at the most, natural gas at a lower rate will be available in the big markets.

"Mechanical stokers of a domestic size are a comparatively new development. Their manufacturers, basing their home sized models on the experience that years in the industrial field have given them have, in a short time, been able to present an automatic coal device that is ready for the home market.

"These factors — oil burners, gas burning apparatus and stokers and their accessories— comprise the field of automatic heat. They comprise a division of the sought-after comforts

# Figures That Indicate *a* Large Market

of American home life that is now ready for presentation to the American home market in a manner that will result in their widespread sale to both new and existing construction."

Let us consider alone the three major heating units—the oil burner, the stoker, and the gas burner or boiler—as they will in themselves best indicate the market for the accessories, the fans, the motors, the valves, the thermostats, the regulators, which complete the assembly of a modern self-sufficient heating plant.

According to the American Oil Burner Association, there were 535,000 domestic oil burners installed in the United States at the beginning of 1930; by January 1, 1931, the total was estimated at 655,000.

The dollars and cents value of gas-fired boilers for the years 1928, 1929 and 1930 was $2,663,937, $3,558,711 and $3,069,449, respectively. Taking an average of $400 as the cost of a gas-fired boiler, that means that there were 6,650 sold in 1928, 8,890 sold in 1929 and 7,670 sold in 1930. These totals seem conservative for it has been reported from another source that one manufacturer alone produced 7,000 in 1929 and another 4,500. The figures given above, however, are from the Department of Commerce. There are no figures available for the conversion gas burners sold each year, but in 1929, according to report, one manufacturer produced 20,000 conversion house heating units and another 10,000.

The figures on stokers must be estimated. One report, issued in October of 1929, said that the number installed was less than 35,000. Since that time there has been an increased interest in all forms of automatic heat, and a number of stokers have, of course, been installed. It is now estimated that there are some 80,000 stokers in operation; based on the fact that one manufacturer, claiming about 50% of the total number of installations, gives as the number of his units in use 40,000.

# The Public Is Going to Have Automatic Heat, Whether It Be Oil, Gas or Coal

AND the natural source of supply and information is the heating dealer, the dealer who installs the heating equipment in the home or apartment.

He is the man who understands heating, knows what to recommend for it in the way of automatic heat. He understands combustion. He knows fuel—and he knows automatic heat better than any other type of retailer.

He serves the public in every other heating requirement and he is serving it with oil burners, stokers, gas heat and their accessories. He is serving efficiently, faithfully, effectively.

He is a part of the community he is established in; he is there not only to sell but to keep sold, the equipment he handles.

He is faithful to his customers and to his manufacturers. He selects only those things to sell which are *right,* which are going to serve as well as he serves.

When he makes a selection, it is only after careful investigation of the product selected. Whether that product is an oil burner, a stoker, some type of gas heat or accessory to any of these or whether it is a combination of any or all of these, they will be right.

The product or products thus selected become a part of the heating dealer's business. He builds with it or with them and because they are right, because they will serve and because he will see to it that they *do* serve, they become accepted by home and apartment owners.

The automatic heat dealer is the biggest selling factor for oil burners, stokers, gas heat and their accessories. Because he is in position to serve the home owners in his community not temporarily but permanently.

## Originality in Piping Scheme

(Continued from Page 70)

thereof is in Section *CD* through the radiator. When the system is functioning correctly there is available, at the point *C*, a pressure head of 588 milinches tending to force the water through Radiator *17a*. This same pressure head of 588 milinches tends also to force the water through Radiators *17b*, *17c*, and *17d*. In addition to this pressure head of 588 milinches, there are available, for the three upper radiators, three gravity heads corresponding to their elevations above the first floor radiators. These elevations are, respectively, 9.25, 18.50, and 27.75 feet. The corresponding pressure heads are, for temperatures of 190 and 170 degrees, 796, 1,592, and 2,388 milinches, and the total available pressure

**Table 6—Friction Heads Through the Three Upper Floor Radiators for Risers Number 17**

**Radiator 17b, P. H. 1384**

| Section | 1000 Btu | Feet Elbows | Size | Velocity In. | Unit Friction | Total Friction |
|---|---|---|---|---|---|---|
| CG | 22.5 | 9.25 | 1 | | 58 | 539 |
| GH | 6.5 | 2<br>11.2 | ¾ | 4.5 | 19<br>27 | 341 |
| HD | 22.5 | 9.25 | 1 | | 58 | 539 |
| Total | | | | | | 1419 |
| Deficit | | | | | | —35 |
| Orifice | | | | | | None |

**Radiator 17c, P. H. 2180**

| | | | | | | |
|---|---|---|---|---|---|---|
| CG | | | | | | 539 |
| GI | 16 | 9.25 | 1 | | 30 | 279 |
| IJ | 6.5 | 2<br>11.2 | ¾ | 4.5 | 19<br>27 | 341 |
| JH | 16 | 9.25 | 1 | | 30 | 279 |
| HD | | | | | | 539 |
| Total | | | | | | 1977 |
| Deficit | | | | | | 203 |
| Orifice | | | | | | .5 |

**Radiator 17d, P. H. 2976**

| | | | | | | |
|---|---|---|---|---|---|---|
| CG | | | | | | 539 |
| GI | | | | | | 279 |
| IK | 9.5 | 9.25 | ¾ | | 36 | 335 |
| KL | 9.5 | 2<br>10 | ¾ | 7 | 36<br>56 | 632 |
| LJ | 9.5 | 9.25 | ¾ | | 36 | 335 |
| JH | | | | | | 279 |
| HD | | | | | | 539 |
| Total | | | | | | 2938 |
| Deficit | | | | | | 38 |
| Orifice | | | | | | None |

CO-OPERATION

Crane Co. is anxious not only to co-operate with plumbing and heating contractors in all broader business and sales policies, but to co-operate personally with each individual contractor. Bring your business problems to the Crane Branch near you. You will find every man there glad to advise and help in every reasonable way.

CRANE

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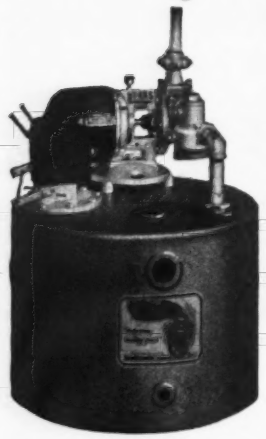
NEW YORK OFFICES: 23 W. 44TH STREET
*Branches and Sales Offices in One Hundred and Ninety-six Cities*

VALVES FITTINGS

BURKS
SUPER-TURBINE
PUMPS



SERIES 4700
Condensation Return Unit

**Replacement Pumps**

Mr. Steamfitter:

We suggest that *now* is the time to replace that old condensation pump your customer has been grumbling about.

The *Burks Super-Turbine* Condensation Return Unit is the ideal return-to-boiler outfit to install, either on that new job or to replace those old traps and pumps that should be junked. Better let us furnish you with complete information now.

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METAPHRAM
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DOMESTIC HEATING BOILERS
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heads for the three upper radiators are 1,384, 2,180, and 2,976 milinches.

The pipe sizes for the three circuits are determined in the usual way as indicated in Table 5. Only one orifice is needed for this group.

The other sixteen groups of radiators were designed in a similar manner. The orifices selected are shown on the respective radiators in Fig. 5.

Riser 7 has no first floor radiator. It must evidently be designed so that the friction head of the second floor radiator is, as nearly as practicable, equal to the friction head for the first floor radiators, 33,531 milinches, plus the excess of gravity head of a second floor radiator over that of a first floor radiator, 796 milinches, or 34,327 milinches.

The usual provisions must be made to provide for expansion, for venting, and for draining.

This completes the design of the system.

◆

## Hackett Wins President's Cup; Philippi Wins Association Cup

The June tournament of the Western Trade Golf Association, held on the 18th at Park Ridge Country Club, was Past Presidents' Day, the second round of the championship matches and the qualifying round of the consolation matches. There were sixty-two members and guests present.

Frank B. Hackett won his second leg on the Presidents' Cup, being the low net of the past presidents in the special feature held annually in June for those who have headed the Western Trade Golf Association in past years. J. J. Philippi won the association cup with an 89-19-70 and, also, first in class C.

Other prize winners were C. A. Reinking, first in classes A and B; A. B. Martin, first in class D; J. P. Kiely, low net morning qualifying round; E. E. Ashby, blind bogey; L. A. Ulrich, low gross for guests; W. M. Byrd, second in classes A and B; C. E. Price, second in class C; and C. W. Johnson, second in class D.

The following members advanced to the third round of the championship matches by winning their matches: Hackett, Stackhouse, Mollison, Welch, Crone, Johnson, Price, Taylor, Weil, G. P. Smith, Dickerson, Rietz, Reinking, Hoier, Ashby, Lotts and Milliken.

The following won their qualifying rounds in the consolation matches; Munn, Thumm, McFarland, Evans, Hyland, Sr., Good, Martin, Meyst, Groner, Philippi, E. F. Smith, Stiles, Braun, Chenoweth, Byrd, Flanagan, McClellan, Walters, Kiely, Jolliffe, Krez, Lindeblad, O'Callaghan and Paschen.

◆

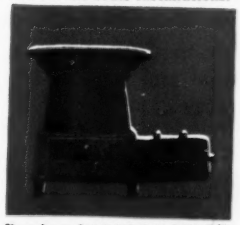
## Is Honored With Dinner

A banquet was tendered Joseph Gordon, president of the Gordon Plumbing and Heating Supply Co., Inc., Glendale, L. I., on May 21 at the Paramount Grill, New York City. Approximately one hundred guests attended the affair, headed by Louis Light, Rosedale, L. I., member of the Brooklyn Master Plumbers' Association, as a gesture of good fellowship toward the guest of honor. During dinner a wrist watch and a painting of himself were presented to Mr. Gordon by the group of contractors who sponsored the dinner.

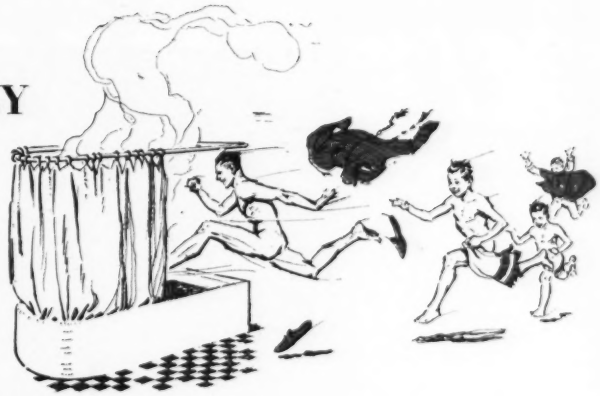
# Burnham HOT WATER SUPPLY Boilers

The HIGH PRESSURE BOILER comes in 4 to 12 sections, 21" and 27" grates, with tank capacities up to 3,800 gallons.

JUNIOR TANK HEATER takes on tanks of up to 700 gallons capacity. Can be ordered with brass water section for all brass installations.



Burnham LAUNDRY STOVE is the best of its kind. Tank capacity 40 to 80 gallons. Also made with brass water section when desired.



## Cash In On The Bath Tub Race!

THAT temper testing race, to get a bath before the hot water is exhausted. Leaves a grouch in a lot of families.

There's your chance to make happy homes and a profit for yourself. Show the unhappy home owners how little it costs to have a hot water supply that IS a SUPPLY.

Furthermore, while you fix them up with dependable BURNHAM hot water supply, your foot is in the door, so to speak. You can often get the overhauling of their complete heating system.

There may not be a lot of velvet in hot water supply installations or fixing. But, isn't it so that in these times any sure profit, be it big or little, is receiving the glad hand?

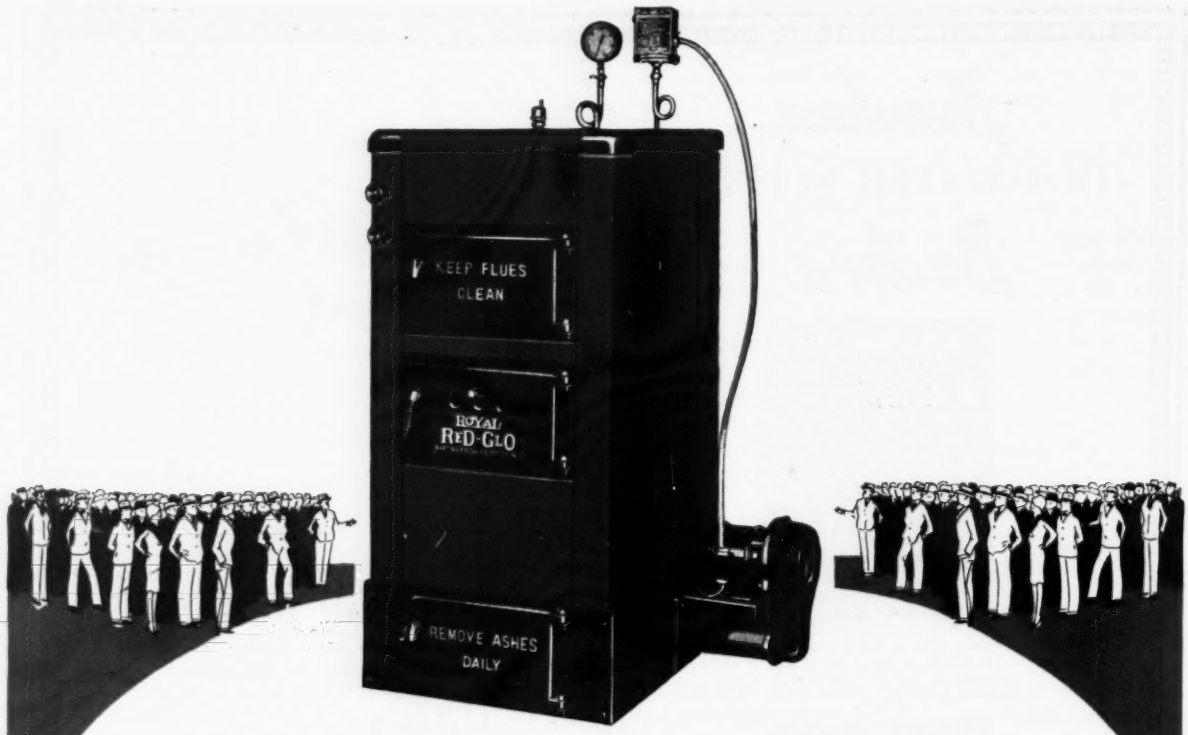
All right then—let's go.

**Send for Catalog of Burnham Boilers for hot water supply. Tanks and equipment also in stock.**

Burnham Boiler Corporation

IRVINGTON NEW YORK

Representatives in all principal cities of the United States and Canada




# THERE IS A DEMAND FOR THE NEW
# RED BLAST BOILER WITH BLOWER

The RED BLAST Boiler with Blower and Temperature Control, all in one unit, is becoming increasingly popular. It means a large saving in fuel costs, since it burns the cheaper sizes of anthracite with great efficiency, little attention and automatic control.

Special features of the RED BLAST Boiler are: attractive, insulated jacket; long combustion chamber and flue travel; easily assembled with individual tie rods; 18-in. and 28-in. sizes. Available, when desired, without Blower and Temperature Control in the RED-GLO Boiler. Write for complete data on

RED BLAST and RED-GLO Boilers

Manufactured by

## HART & CROUSE CO.

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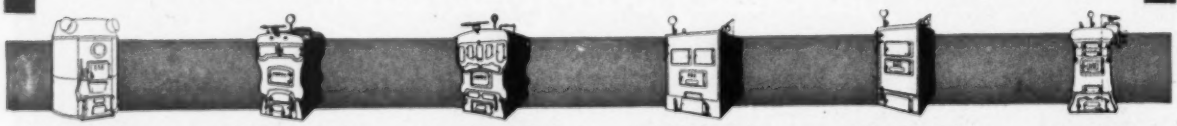
Boston New York Washington Detroit Pittsburgh Philadelphia

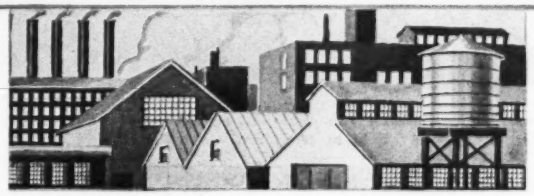
A COMPLETE LINE OF FURNACES AND BOILERS FOR EVERY TYPE OF BUILDING



Warm Air Furnace | 28" Sectional Boiler | Large Sectional Boiler | 28" Red-Glo Boiler | 18" Red-Glo Boiler | Round Boiler

# SUPPLY NEWS

## AMONG MANUFACTURERS, WHOLESALERS AND SALESMEN



### American Brass Co. Starts Big Expansion Program

The American Brass Co., Waterbury, Conn., has started a $3,000,000 building program at Ansonia, Conn., which will be the center of the company's manufacturing interests, replacing Waterbury. Buildings now in the process of construction represent a $600,000 outlay. In 1932 the company will spend $1,250,000 for new units and in 1933 the balance will be placed in new construction.

◆

### Open Joint Warehouse in Chicago

Barnes Mfg. Co., Mansfield, Ohio, and the Columbia Radiator Co., McKeesport, Pa., opened a joint warehouse at the corner of 39th and Wallace streets, Chicago, on June 15. A complete stock of the products manufactured by the two companies will be carried at this new distributing point. Frank Barry has been appointed district manager.

◆

### Federal Radiator Co. Opens Two New Branches

Federal Radiator Co., Zanesville, Ohio, recently opened a branch office and warehouse at 4524 Lakeside avenue, Cleveland, Ohio, where radiators of its manufacture and the line of boilers that it handles will be stocked. James F. Orr, manager of the Cleveland branch, and G. A. Myers are covering this territory.

The company has also opened a branch office in the Building Industries building, Cincinnati, where a display of its products is maintained. E. A. MacConnell and J. E. Brecht are covering Cincinnati and adjacent territory.

◆

### Westinghouse Co. Elects Officers

At the organization meeting of the board of directors of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., held recently, the following officials were elected: A. W. Robertson, chairman of the board; F. A. Merrick, president; J. S. Tritle, vice president in charge of manufacturing; S. M. Kintner, vice president in charge of engineering; W. S. Rugg, vice president in charge of sales; L. A. Osborne, H. P. Davis, H. D. Shute, J. S. Bennett, H. T. Herr, Walter Cary, T. P. Gaylord and Harold Smith were re-elected vice presidents.

C. H. Terry was elected an honorary vice president. E. M. Herr was re-elected vice chairman.

◆

### Branch Managers Meet in Buffalo, N. Y.

Associated Sanitary Industries, Inc., of Buffalo, N. Y., the holding and directing company of W. A. Case & Son Mfg. Co., Buffalo, and Aird-Don Co., Troy, held a meeting of all branch managers of the latter two companies in Buffalo on June 19 and 20. Among those present were fifteen branch managers of the Case company and six from the Aird-Don Co.

◆

### New Wholesale House Opened in Liberty, N. Y.

Announcement has been made of a new jobbing house to serve the trade in Sullivan County, N. Y. The firm will be known as Kandel Brothers, and is situated at Liberty, N. Y. The new company is headed by J. and E. Kandel.

◆

### Branch Managers of American Radiator Co. Hold Sales Meeting

The American Radiator Co. held a general sales meeting at the Astor hotel, New York City, for fifty-five branch managers. The meeting opened Thursday, June 25, and continued for a week, under the personal direction of M. J. Beirn, vice president.

A number of sales problems were discussed at the round table sessions during the opening days of the meeting. The latter part of the week was devoted to visits to sales rooms and a familiarization tour of the factory at Bayonne, N. J.

◆

### Increases Profits 300 Per Cent

Profits of the Silent Automatic Corp., Detroit, Mich., including its subsidiary, Silent Automatic Sales Corp., for the month of May were more than 300 per cent greater than for the corresponding month in 1930, it has been announced by Walter F. Tant, president. It was also stated that, from a profit standpoint, June compared favorably with May.

**Some of the dealers, agents and salesmen attending the national educational convention of Silent Glow Oil Burner Corp., held at Hartford, Conn.**

## Steel Pipe Nipple Standard Is Reaffirmed

As a result of a survey undertaken recently by the Department of Commerce, Bureau of Standards, in cooperation with manufacturers of steel pipe nipples, the existing standard has been reaffirmed without change for the year beginning January 1, 1931, as recommended by the standing committee.

◆

## Moves Philadelphia Office

Fords Porcelain Works, Inc., Perth Amboy, N. J., has announced the removal of its Philadelphia, Pa., office and showroom to 1700 Sansom street, Room 606.

◆

## Peerless Heater Co. Appoints New Representative

The Peerless Heater Co., Boyertown, Pa., has appointed Himmelblau, Agazim Company, 30 North Dearborn street, Chicago, as its sales and service representative in Chicago, Northern Illinois and Eastern Indiana.

◆

## Midwest Heating Service Co. Is Formed

Paul R. Unger and Irwin W. Mautner, formerly with the Chicago branch of the Johnson Oil Burner Co., have organized the Midwest Heating Service Co., at 3227 Carrol avenue, Chicago, where they will have charge of Chicago sales of the Midwest Oil Burner Mfg. Co., at the same address. They will also sell fuel oil and service burners.

## Silent Glow Oil Burner Corp. Announces Expansion Plans at Convention

At the national educational convention of the Silent Glow Oil Burner Corp., Hartford, Conn., it was announced that the corporation has acquired a lease on the three factory buildings formerly occupied by the Hartford Rubber Works, on Park Avenue, in that city. The lease is for ten years and alterations will be made and the plant equipped for the manufacture of oil burners. Operations will get underway August 1, according to R. M. Sherman, president of the organization.

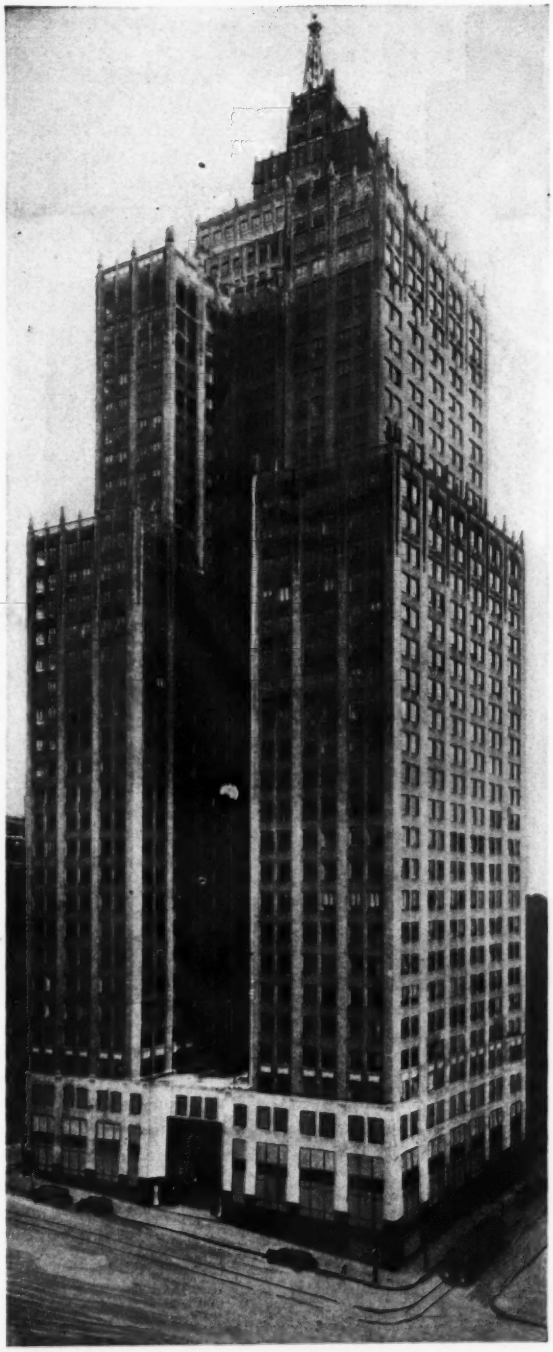
The Silent Glow Oil Burner Corp. has been in business for eight years, with the same management continuously directing its affairs. Growth of its business required the leasing of this additional manufacturing space.

The convention, which was held at the state armory, in Hartford, on June 15, was attended by more than 1,000 dealers, agents and salesmen, besides executives. This included 75 Canadian representatives and also delegates from as far west as Minneapolis.

An exhibit of products was on view and included 15 burners in operation. Besides the Silent Glow company, 23 other companies had a showing of accessories.

H. G. Elrod, vice president of the Silent Glow Oil Burner Corp., Ltd., officially opened the meeting, after acting Mayor Barclay Robinson had welcomed the delegates to Hartford. Mr. Robinson was extended an in-

**Another section of the group picture of representatives of Silent Glow Oil Burner Corp., attending the national educational convention at Hartford, Conn.**



GRANT BUILDING, PITTSBURGH

Architect, Eric Fisher-Wood Co. General Contractor, Thompson Starrett Co.
Engineer, Thomas Payne Plumbing Contractor, W. N. Sauer Co.
Heating Contractor, McGinnis, Smith & McGinnis Co.

Specify
WALWORTH
VALVES
FITTINGS
AND TOOLS
for
PLUMBING
AND
HEATING

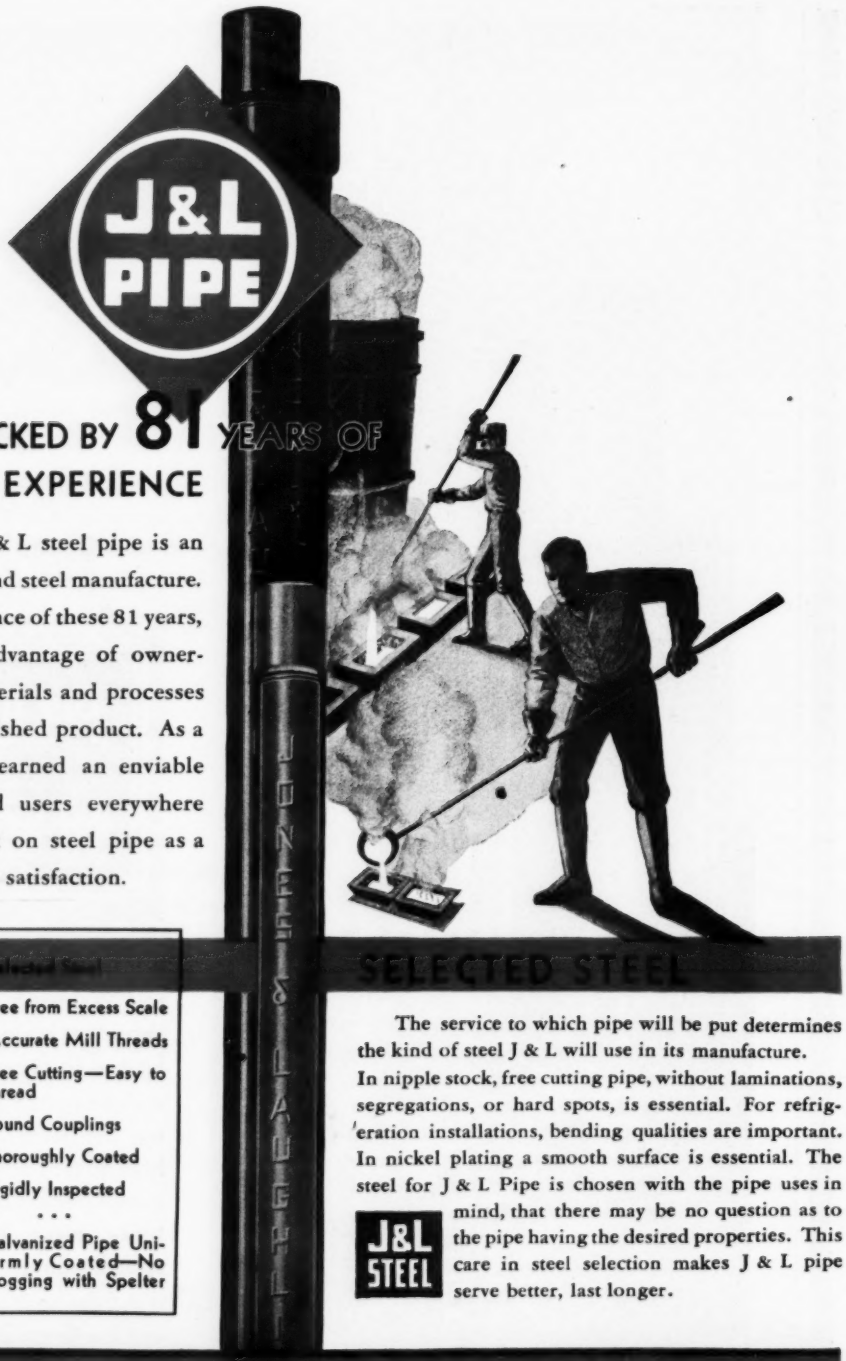
• It is worth noting that the growing tendency to "Walworth throughout" jobs in new and important buildings of this type is by no means limited to New York City.

• All over the United States prominent plumbing contractors and engineers know that the high quality of Walworth valves and fittings, the completeness of the line and its ready availability, make it a wise and forward-looking specification.

• All the heating and plumbing valves throughout the Grant Building in Pittsburgh were made and supplied by Walworth.

WALWORTH COMPANY
General Sales Offices: 60 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa.
and Attalla, Ala.
• DISTRIBUTORS IN PRINCIPAL CITIES OF THE WORLD •

VALVES
FITTINGS
TOOLS
WALWORTH




# J&L PIPE IS BACKED BY 81 YEARS OF IRON AND STEEL EXPERIENCE

Behind every length of J & L steel pipe is an 81-year record of quality iron and steel manufacture. In addition to the rich experience of these 81 years, J & L enjoys the important advantage of ownership-control over all raw materials and processes of manufacture from ore to finished product. As a result, J & L steel pipe has earned an enviable reputation for excellence, and users everywhere rightly regard the J & L mark on steel pipe as a pledge of complete and lasting satisfaction.

## OUTSTANDING FEATURES OF J & L STEEL PIPE

1—Selected Steel
2—Free from Excess Scale
3—Accurate Mill Threads
4—Free Cutting—Easy to Thread
5—Sound Couplings
6—Thoroughly Coated
7—Rigidly Inspected
• • •
8—Galvanized Pipe Uniformly Coated—No Clogging with Spelter

The service to which pipe will be put determines the kind of steel J & L will use in its manufacture. In nipple stock, free cutting pipe, without laminations, segregations, or hard spots, is essential. For refrigeration installations, bending qualities are important. In nickel plating a smooth surface is essential. The steel for J & L Pipe is chosen with the pipe uses in mind, that there may be no question as to the pipe having the desired properties. This care in steel selection makes J & L pipe serve better, last longer.

J&L STEEL

## JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis Milwaukee Minneapolis New York Philadelphia Pittsburgh St. Louis San Francisco
Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH

J & L JUNIOR BEAMS | J & L STEEL PIPE | J & L LIGHT CHANNELS | J & L NAILS and STAPLES BRIGHT and GALVANIZED | J & L CONCRETE BARS | J & L STRUCTURAL STEEL | J & L STEEL PILING

vitation to attend the Canadian convention which will be held August 3, by Leo L'Esperance, secretary of the Silent Glow Oil Burner Corp., Ltd.

Officials of the Hartford company gave short talks regarding plans for the future for advertising, manufacturing and sales methods. These speakers included: President R. M. Sherman; L. S. Kroto, treasurer; and H. P. Riordan, secretary. Following these addresses the following were introduced: F. F. Neumann, superintendent of the Hartford plant; J. E. Flynn, purchasing agent; R. H. Syner, general manager of the power burner division; and A. J. Gilbert, chief engineer.

**R. M. Sherman, president, Silent Glow Oil Burner Corp.**

Other addresses were delivered by Emert M. Pattison, sales manager in the mid-west; Paul deLahunta, sales promotion manager; and Horace G. Cleveland, vice president of Lyman Irish & Co., advertising agency.

The afternoon session got underway at two o'clock. O. P. Harris of the American Oil Burner Association was the first speaker and he was followed by members of outside exhibiting companies, nine in number, who gave short technical talks. At three the exhibit was given complete attention by all present until four o'clock. At the resumption of the session Miss Katherine Fisher of Good Housekeeping Institute gave a 15 minute address covering the domestic end of the oil burner industry. Ten more technical talks of five minutes each were given by exhibitors.

Vice President Charles B. Cook of the Royal Typewriter Co., Hartford, was toastmaster at the banquet in the evening. Clarence T. Hubbard, vice president of the Automobile Insurance Co., told the gathering "How Not To Sell Oil Burners." It was announced that all exhibitors would show their products at the Canadian convention on August 3.

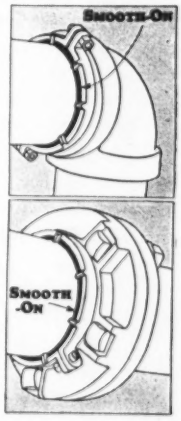
◆

## Anthracite Club Is Formed At Malden, Mass.

The Middlesex Anthracite Club recently was organized at Malden, Mass., to carry on the program of the Committee of Ten in that region, although its efforts will be confined to furthering utilization of anthracite.


## Don't let pipe-thread leaks give you a bad reputation

IF leakage at pipe joints streaks the wall, discolors the pipe covering, causes some of it to loosen and fall off, and keeps the floor wet and mussy, your superior is justified in believing that you let more serious faults exist.

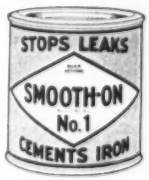



SMOOTH-ON Clamp on a threaded fitting, and below on a flanged joint. No interference with bolts or nuts. Note small space occupied by the clamp.

Any Engineer can stop leaks at threaded joints quickly, perfectly and permanently by applying Smooth-On No. 1 in a Smooth-On Clamp. The job is done in a few minutes, at small cost, without the delay of taking down the line and remaking the joints. When the pipe covering is replaced the repair cannot be seen.

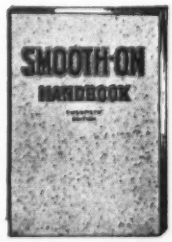
Smooth-On Clamps are excellent for repairing leaks at any pipe-thread joint on steam, gas, air, oil, ammonia, alkali and water lines. The Smooth-On Handbook tells you how to place and fill the clamp and how to make about 200 other simple practical and profitable repairs with Smooth-On.

If you would be prepared for stopping pipe leaks and for making other quick repairs at breaks, joints, open seams, etc., keep a supply of Smooth-On No. 1 and a few Smooth-On Clamps of various sizes in your store room, and get a copy of the Smooth-On Handbook for your desk.




*Mail the coupon for the Smooth-On Handbook and get Smooth-On Clamps in pipe sizes from 3/8-in. to 12-in. and Smooth-On No. 1 in 1-lb. (and 5-lb. cans or 25-lb. or 100-lb. kegs. If your dealer can't supply you, write to us.*

SMOOTH-ON MFG. CO., Dept. 12, 570 Communipaw Ave., Jersey City, N. J.
Please send copy of the SMOOTH-ON HANDBOOK 21st Edition.
Name.....
Address.....
.....
7-11-31 .....




Do it with SMOOTH-ON

## Many Interesting Papers Read at A. S. H. V. E. Summer Meeting

The semi-annual meeting of the American Society of Heating and Ventilating Engineers was held at the New Ocean House, Swampscott, Mass., June 22-25, and the program for the technical sessions contained many interesting papers. Those papers of greatest interest to plumbing and heating contractors will appear in later issues of DOMESTIC ENGINEERING.

The afternoon of the first day was given over to a meeting of the committee on research and the council meeting.

The technical session on Tuesday was opened by D. S. Boyden, chairman of the committee on arrangements for the meeting, who greeted the visiting members and guests. Response was made by President W. H. Carrier.

"Flow of Steam through Orifices into Radiators," was the subject of a paper prepared by S. S. Sanford and C. B. Sprenger, and read at the opening session. Other papers read at the first session were "Friction Heads in One-Inch Standard Cast Iron Tees," by F. E. Giesecke and W. H. Badgett; "Sizing Pipes and Orifices for Gravity Hot Water Heating Systems," by E. G. Smith; "Using Gas-Vapor Mixtures for Heating Purposes," by C. A. Dunham. The report of the committee on increase of membership of which C. W. Farrar is chairman, and the report of the committee on testing and rating unit ventilators, John Howatt, chairman, were read.

At the session on Thursday morning, F. B. Rowley read a paper, entitled "Essential Elements for Determining Heating Plant Requirements." The report of the committee on rating and testing concealed gravity type radiation was submitted by R. N. Trane, chairman. "Steam Condensation, an Inverse Index of Heating Effect" was the title of a paper submitted at this session by A. P. Kratz and M. K. Fahnestock. "Experiments to Determine Heating Effect Factor" was the subject of a paper prepared by R. N. Trane and C. J. Scanlan. "Study of Performance Characteristics of Oil Burners and Low Pressure Heating Boilers" was the title of a paper by L. E. Seeley and E. J. Tavanlar.

The report of the committee on ventilation standards was read at the Thursday session by Chairman W. H. Driscoll, C. V. Haynes, chairman of the committee on research, also reported for his committee.

"Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems" was the subject of a paper prepared jointly by F. C. Houghten, W. W. Teague, W. E. Miller and W. P. Yant. "Infiltration through Double Hung Wood Windows" was the title of a paper by G. L. Larson, D. W. Nelson and R. W. Kubasta.

"Measurement of the Flow of Air through Registers and Grilles" was the title of a paper by L. E. Davies. W. C. Randall and E. W. Conover submitted a paper for reading at this session, entitled "Predetermining the Airation of Industrial Buildings."

A splendid program of events had been arranged for the entertainment of the visitors. The following were victorious in the kickers' handicap in the golf tournament: M. L. Steele, Robert Robertson, Walter Fleisher,

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Complete investigation on your part, of Trenton Brass Ball Cocks and Tank Valves, will at once show you why they are highly superior.

Whatever your customer's or your own most rigid specifications are, they will be adequately taken care of with these products.

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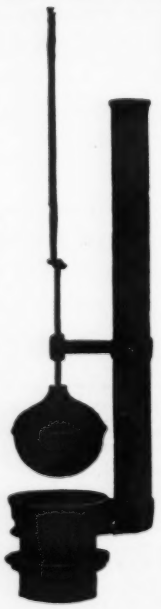
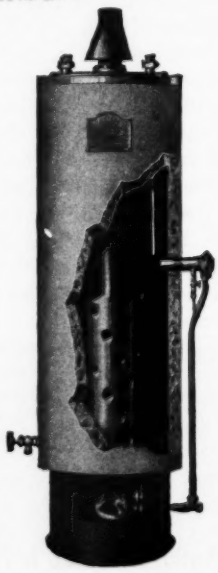


LOOK FOR OUR CATALOG IN PLUMBING & HEATING CATALOG

WELDCO
WATER HEATER
TRADE MARK REG US PAT OFF

Greatest Efficiency Yet Reached!

ENTIRELY new and different design in an efficient, permanent Automatic Hot Water System. Lifetime copper heating element is submerged in vitreous enameled tank. Tests reveal an efficiency never before attained—dependable, continuous supply of clean, hot water assured for the life of the building.



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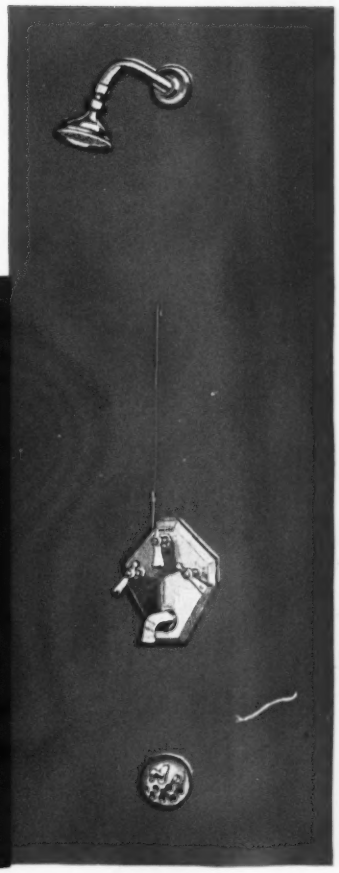
*Write today for illustrated literature and complete details which point the way to profits for you.*

The Youngstown Welding & Engineering Co.
3600 Oakwood Ave. YOUNGSTOWN, OHIO

# REPUBLIC PRESENTS

# *The New Yorker*

## DOUBLE APPEAL . . . DESIGN AND PRICE!



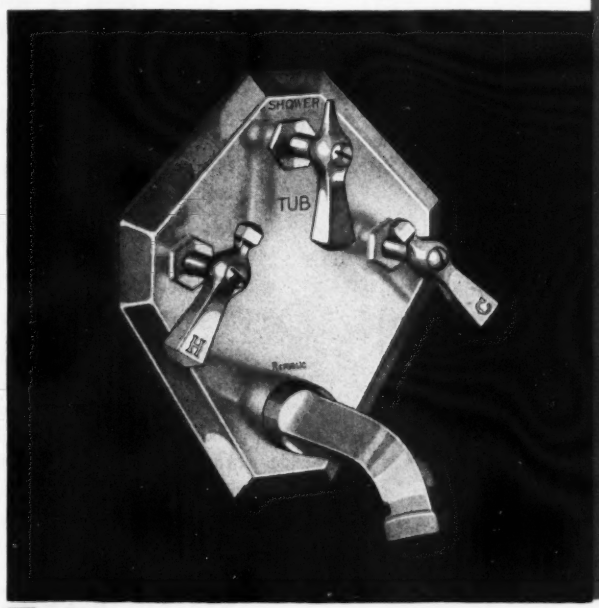



Fig. 3730
Diverter Bath and Shower Fixture.
Patent Nos. 1,332,793; 1,579,503; 1,556,406; 1,647,984; 17,034.

## [redacted]ire both barrels and watch the orders fall your way

The New Yorker is a double-barrel, high-power sales weapon that makes it easy to bag orders. Open up with the "eye-appeal barrel". Demonstrate the New Yorker's modish lines, modern finish, advanced design. Then clinch the order with the "economy barrel". The low price you can quote with this moderate-in-cost fixture quickly turns prospects into customers.

This diverter bath and shower fixture is the first of the family of New Yorker fixtures to be introduced by Republic. The complete New Yorker line will include a lavatory fixture; a four valve body bath and shower fixture; a tub fixture; a shower fixture; and the diverter fixture illustrated above.

The New Yorker is modern from tip of spout to shower head. Thoroughly good in every detail of design, materials and workmanship, it is a customer-winning, good-will building fixture.

**REPUBLIC**
*Brass Goods*

You will be orders and profits ahead once you feature the New Yorker on those tough competitive jobs—be they single dwellings or mighty apartments. See this modern fixture at your nearest Republic jobber or write direct for full information.

THE REPUBLIC BRASS COMPANY
1623 East 45th Street « « « Cleveland, Ohio

# CENTRAL
## WROUGHT STEEL
# PIPE

Plumbing and heating contractors the nation over, acclaim "Central" as the softest and most workable merchant pipe obtainable—bar none.

Made from the mildest and softest basic Bessemer Steel that modern methods can produce, this ductile pipe will cut, thread and bend with the utmost ease.

Every length is remarkably straight and uniform—the threads strictly in accordance with Briggs Standard. The dies which cut the threads are frequently checked and gauged. The result is clean, uniform pipe and coupling threads that please every contractor who is particular about good tight joints and a lasting, satisfactory job to the building owner.

**CENTRAL TUBE COMPANY**
PITTSBURGH, PA.

- EASY TO CUT
- EASY TO BEND
- EASY TO THREAD
- UNIFORM LENGTHS
- CLEAN, UNIFORM THREADING
- HEAVY, SERVICEABLE COUPLINGS

**"TESTED STRENGTH IN EVERY LENGTH"**

William P. Brown, F. R. Ellis, C. W. Lemmerman, J. J. Roper, C. J. Scanland, L. J. Carper, W. C. Randall and W. R. Trazer.

On Tuesday afternoon the Chapter team tournament was held at Winchester, with the Massachusetts Chapter the victor. Boston, Chicago and Philadelphia entered teams in the contest.

In the clock golf tournament for ladies, Mrs. R. H. Carpenter, Mrs. Horton, Mrs. F. C. Houghton and Mrs. R. E. Daby finished in the order named. Mrs. Thomas Chester, Mrs. F. C. Houghton and Miss Mary Driscoll finished in that order in the ladies nine-hole golf tournament. Mrs. J. W. Brenton was the winner of the consolation prize.

Trips were made to numerous places of historic interest in the vicinity. The banquet and dance at the New Ocean House on Wednesday evening was a particularly enjoyable affair.

# Business Personals

H. M. Reed, president and chairman of the executive committee of Standard Sanitary Mfg. Co., Pittsburgh, Pa., sailed on the SS. Leviathan June 17th for Europe. Mr. Reed's headquarters while abroad will be the Paris office of The American Radiator Co., 149 Boulevard Haussmann, from where he will make a tour of inspection of the company's sanitary plants at Neuss-on-the-Rhine, Germany, and The American Radiator plant at Barcelona, Spain. Mr. Reed will make a complete study of European market conditions, particularly in Germany, where in spite of unfavorable general financial conditions the Neuss plant is in full operation.

H. W. Seymour, vice president of Crane Co., Chicago, met with an accident while in Milwaukee for the annual convention of the N.A.M.P., that confined him to his hotel room for two days and then made necessary his return to Chicago. The accident occurred while Mr. Seymour was playing golf on Sunday, June 21, the day before the convention opened. The spikes of his golf shoes caught on a log step and his leg was badly sprained.

Frank Richards, formerly connected with the Bryant Heater & Mfg. Co. of Cleveland, Ohio, as sales representative in the Pittsburgh, Pa., territory, has joined the B-Line Boiler Co. of Cleveland and will represent the latter company in the Pittsburgh district.

George T. Whitmore, secretary-treasurer of the Bridgeport Brass Co., Bridgeport, Conn., has resigned because of ill health to decrease his business responsibilities. Mr. Whitmore is secretary of the Risdon Mfg. Co., Naugatuck, Conn., and will remain active with that company. He has been with the Bridgeport company since 1928. Ernest S. McClary succeeds Mr. Whitmore as secretary-treasurer of the Bridgeport Brass Co. Mr. McClary came to the company as comptroller in 1922 and became assistant secretary-treasurer in 1928. Leonard M. Allen, credit manager, became assistant treasurer, and William R. Breetz was named assistant secretary. Salwyn Bywater of New York was elected to fill the vacancy on the board of directors.

Chetwood Smith, manufacturers' agent, Boston,

He *didn't* count sheep jumping a fence

NO SIR! The guest we have in mind had his own cure for insomnia! He asked us to furnish a thermos bottle full of hot milk, so that he could have it by his bed, in case he woke up at night, take a drink ...and then get to sleep again! Thermos bottles and hot milk aren't part of the standard equipment of United Hotels... but we do have large, airy high-ceiling rooms, with a feeling of pleasant freedom... and the beds...well, if you've ever slept in one of our hotels you know how good they are! So there's very rarely occasion for insomnia at any of the 25 United Hotels listed below.

*Extra service at these 25*

**UNITED HOTELS**

NEW YORK CITY'S *only United* ... The Roosevelt
PHILADELPHIA, PA. ... The Benjamin Franklin
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HARRISBURG, PA. ... The Penn-Harris
ALBANY, N. Y. ... The Ten Eyck
SYRACUSE, N. Y. ... The Onondaga
ROCHESTER, N. Y. ... The Seneca
NIAGARA FALLS, N. Y. ... The Niagara
ERIE, PA. ... The Lawrence
AKRON, OHIO ... The Portage
FLINT, MICH. ... The Durant
KANSAS CITY, MO. ... The President
TUCSON, ARIZ. ... El Conquistador
SAN FRANCISCO, CAL. ... The St. Francis
SHREVEPORT, LA. ... The Washington-Youree
NEW ORLEANS, LA. ... The Roosevelt
NEW ORLEANS, LA. ... The Bienville
TORONTO, ONT. ... The King Edward
NIAGARA FALLS, ONT. ... The Clifton
WINDSOR, ONT. ... The Prince Edward
KINGSTON, JAMAICA, B.W.I. ... The Constant Spring

UNITED HOTELS

Sales conference of U. S. Hame Company. From left to right: F. H. Mixer, George Charlton, Malcolm Isbester, William E. Burger, N. Shadburn, T. W. Porter, vice president in charge of sales, R. P. Carr, president, R. W. Southard, secretary, J. E. Newsome, Canadian distributor, Edwin B. Dietrich, The Moss Chase Co., Buffalo, N. Y., R. U. Carr, treasurer

Mass, has opened new offices in Room 426 Park Square building. Mr. Smith is representative in the New England territory for Watts Regulator Co., Lawrence, Mass., and also for John G. Kelly, Inc., New York City, distributor for the Watts company. In addition, he is also representing Federated Laboratories, Inc., New York City, the Marshalltown Mfg. Co., Marshalltown, Ia., and the Art Fittings Co., Cleveland, Ohio. Mr. Smith has in his employ several assistants to contact plumbing and heating contractors in the territory.

◆

## Death of Meyer Fisher

Meyer Fisher, president and founder of the Mid-City Plumbing Supply Co., 1105-1111 South Western avenue, Chicago, died at his home in this city on Monday, June 29, in his 61st year. Mr. Fisher founded his company in 1916 and took an active part in its business until about two years ago when his health began to fail. His widow, three sons and a daughter survive him. The sons are Nathan, Raymond and Jacob, who have been associated with their father's company for years, and they will continue the business as heretofore.

◆

## Eastern Trade Golfers Hold June Meet

Despite bad weather, thirty-seven members of the Eastern Trade Golf Association gathered at the Forest Hill Field Club, Bloomfield, N. J., for the regular monthly tournament on June 16. J. B. Garfield of the American Radiator Co. and C. S. Wood of Chas. S. Wood & Co., were hosts of the day. Since the May meet, there had been many changes in handicaps, and, consequently, when scores were tallied there were several upsets. An excellent assortment of prizes were offered, from which the following high scorers made their selections:

| | G. | H. | N. |
|---|---|---|---|
| G. M. Scott | 85 | 20 | 65 |
| H. P. Bartlett | 97 | 30 | 67 |
| L. B. Harrison | 97 | 30 | 67 |
| V. J. Cucci | 99 | 32 | 67 |
| H. S. Sleik | 86 | 17 | 69 |
| W. A. Davis | 87 | 18 | 69 |
| R. H. Smith | 84 | 14 | 70 |
| T. W. Powers | 94 | 24 | 70 |
| B. S. Bacon | 100 | 30 | 70 |
| E. H. Page | 85 | 14 | 71 |
| W. W. Hubbard | 85 | 14 | 71 |

## U. S. Hame Co. Holds Salesmen's Conference

On June 22-24, the U. S. Hame Co., Buffalo, N. Y., held its salesmen's conference. The meeting was directed by R. P. Carr, president, and T. W. Porter, vice president in charge of sales.

These two officers opened the conference with short talks. J. M. Glaser, vice president, reviewed the development of the company's products. During the meeting, the company's sales and advertising plans were outlined by E. J. Felt and E. B. Dietrich, both of the Moss-Chase Co. Throughout the meeting, practical demonstrations were given of the company's products, their design and use, as well as practical schooling in selling those products. The visiting representatives were taken through the company's plant.

◆

## New England Metal Products Golf Association Holds June Meeting

On June 25 the New England Metal Products Golf Association, at the invitation of George L. Tillinghast, held its meet at the Rhode Island Country Club, one of the outstanding golf courses of the country, and a number who were unable to attend sent their regrets, as everyone likes to play this splendid course.

President E. B. Lane won low net for the day with a 69, and was given the special prize of a golf bag, offered by Adolph A. Gatheman, recently deceased, and during the dinner M. W. Dennison explained how this prize was offered by Mr. Gatheman while he was in the hospital and knew his end was not far off.

M. W. Dennison won first prize in the morning with a net 72. Fred Egglestone won second prize with a net 74, and William Hayes won third with a net 78. In the afternoon William Thayer won first prize with a net 75, Maurice Lynch won second with a net 78, and Frank Monroe won third with a net 79.

It was decided to hold the next meet at Crow Point on July 16th, and in the evening there will be a clam bake out-of-doors. The August meet will be held on the 13th at Hoosic-Whisick, with James Rollins acting as host.

# ANNOUNCING

# The AIRPORT

TRADE MARK

## A New Hoffman Valve

*Angle and Straight Shank Types*

First appearance after months of exhaustive research and rigid testing! Offers the Hoffman patented double channel feature, yet is priced for jobs where cost is a factor. *Guaranteed for five years.* Get the facts on this new valve at once—ask your jobber or write us. Hoffman Specialty Company, Inc., Dept. RX-67, Waterbury, Conn., Makers of Hoffman Venting Valves, Hoffman Controlled Heat and Hoffman-Economy Pumps.

HOFFMAN SPECIALTY CO., INC., Dept. RX-67
Waterbury, Conn.

Please send me full information and prices on the new Hoffman Airport.

Name .....

Address .....

City ..... State .....

**NO LEAKY SPUDS IN PENNSYLVANIA RANGE BOILERS**

*and we'll tell you why*

Malleable Iron Spuds are driven by high speed hammers into all openings of our boilers and five or six clean, deep threads in a heavy reinforced collar give assurance of tight pipe connections.

Complete line of ALL WELDED and RIVETED AND WELDED Galvanized Boilers.

*Sold ONLY by JOBBERS*

**JOBBERS: Send for sample of any boiler for 30 day inspection.**

**Pennsylvania Range Boiler Company**
24th & Washington Avenue *Est. 1895* Philadelphia, Pa.

**YEARS OF EXTRA SERVICE *are built into every* GLOCO**

In developing the line of Gloco Red Band Tank Heaters, we studied the tank heater question from two angles: (1) Maximum service to the householder. (2) Keen appreciation of the problems of the man who sells and installs them.

The result is a line of tank heaters unlike any other. A basic design that makes for *fuel saving* — and a construction that makes for unusual endurance. Years of *extra service* are built into every Gloco.

45 sizes to choose from—each tested to 300 pounds and guaranteed to 125 pounds working pressure. Ask your Wholesaler.

No. 40

EVINS F. GLORE & SON, Inc.
Grand Central Terminal Bldg.,
New York City

"LOOK FOR THE RED BAND OF QUALITY"

TRADE MARK
GLOCO
RED BAND TANK HEATERS


# Convention Dates

**September 8-11, 1931**—A. S. S. E.—The annual convention of the American Society of Sanitary Engineering to be held at Richmond, Va., with headquarters at the Jefferson hotel.

## COMING TRADE EVENTS

**July 14, 1931**—Monthly tournament of the Eastern Trade Golf Association, to be held at Pomonok Country Club, Flushing, Long Island, N. Y.

**July 14, 1931**—The third tournament of the Plumbing and Heating Golf Association of New York, to be held at North Hills Golf Club, Douglaston, L. I.

**July 15, 1931**—Tournament of the Connecticut Plumbing and Heating Trades Golf Association, to be held at Mill River Country Club, Stratford, Conn.

**July 16, 1931**—The monthly tournament of the New England Metal Products Golf Association, to be held at Crow Point Country Club.

**July 20, 1931**—The fourth tournament of the Central Trades Golf Association of Pittsburgh, Pa., to be held at the St. Clair Country Club.

**July 22, 1931**—The third golf tournament of the Plumbing Contractors' Association of Chicago, to be held at Euclid Hills Golf Club.

**July 22, 1931**—The annual outing of the Newton (Mass.) Master Plumbers' Association, to be held at Thompson Grove, near Silver Lake, Wilmington, Mass.

**July 23, 1931**—The annual outing of the Harrisburg (Pa.) Master Plumbers Association, to be held along the Juaniata River, near Harrisburg.

**August 12, 1931**—The annual outing of the Master Plumbers Association of the Bronx (N. Y.) to be held at Karatsonyi's Hotel, Glenwood Landing, Long Island, N. Y.

**August 13, 1931**—The monthly tournament of the New England Metal Products Golf Association, to be held at Hoosic-Whisick Country Club.

**August 18, 1931**—Monthly tournament of the Eastern Trade Golf Association, to be held at Tamarack Country Club, Port Chester, N. Y.

**August 20, 1931**—The fourth golf tournament of the Plumbing Contractors' Association of Chicago, to be held at Tam O'Shanter Golf Club.

**August 24, 1931**—The fifth tournament of the Central Trades Golf Association of Pittsburgh, Pa., to be held at the Wildwood Country Club.

**August 27, 1931**—The annual outing of the Manhattan (N. Y.) Master Plumbers Association, to be held at Karatsonyi's Hotel, Glenwood Landing, Long Island, N. Y.

**September 12, 1931**—The annual outing of the Master Plumbers Association of Jersey City, N. J., to be held at Blasberg's Farm, Hawthorne, N. J.

**September 17, 1931**—Monthly tournament of the Eastern Trade Golf Association, to be held at Echo Lake Country Club, Cranford, N. J.

**September 21, 1931**—The sixth tournament of the Central Trades Golf Association of Pittsburgh, Pa., to be held at the Latrobe Country Club, Latrobe, Pa.

**September 23, 1931**—The fifth golf tournament of the Plumbing Contractors' Association of Chicago, to be held at Oak Hills Golf Club.

**September 23, 1931**—The fourth tournament of the Plumbing and Heating Golf Association of New York, to be held at the Westchester Country Club, Rye, N. Y.

**October 6, 1931**—Monthly tournament of the Eastern Trade Golf Association, to be held at Woodmere Country Club, Woodmere, Long Island, N. Y.

**October 20, 1931**—The fifth tournament of the Plumbing and Heating Golf Association of New York, to be held at Kings Ridge Club, Portchester, N. Y.

**November 16-21, 1931**—The Third International Conference on Bituminous Coal, to be held at Carnegie Institute of Technology, Pittsburgh, Pa.

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**Sonoma, Calif.**—B. L. Mullinix has engaged in the plumbing and heating business on Spain street. He was formerly associated with J. J. Dunbar in the plumbing business in this city.

# THE TRADE NEWS

News of Plumbing and Heating Contractors

## Sound Business Methods Urged by P. & H. Club Speaker

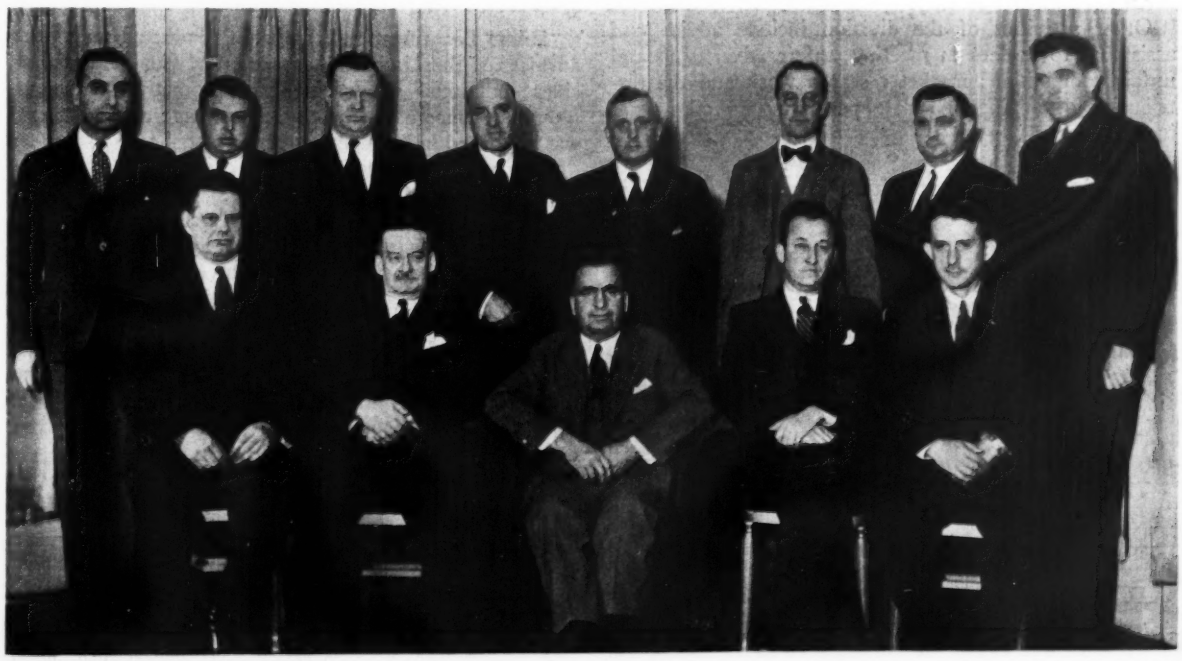
One of the best talks ever delivered at a meeting of the Plumbing and Heating Club of San Francisco and the Bay Cities, was that given at the monthly luncheon on June 18 when James H. Pinkerton, dean of the northern California plumbing contractors, spoke informally on affairs in the commercial world.

At the outset, Mr. Pinkerton commented on the recent address by President Sproul of the University of California, which he characterized as one of the soundest, most practical and most timely talks he had ever heard. "After hearing this," he continued, "I am more firmly convinced than ever that the answers to our present economic problems lie solely along the road of sober, hard work which leads to normal, fair profits." Touching on the banking aspect, the speaker deplored certain methods of so-called "high financing" which have resulted in nothing but grief for all those intimately concerned, chiefly the depositors.

Counseling against taking too serious an attitude toward business, the speaker said, "There is a time for play and a time for work, but the time has passed when we think we can take a dime and make it do the work of a ten-dollar gold piece. . . . We have plenty to eat and plenty to wear; likewise, there is plenty of work and plenty to do it with. . . . This is our country, and we must look out for it."

Referring specifically to the plumbing and heating industry and the organizations that are working toward its advancement, Mr. Pinkerton concluded by saying, "Possibly some of you are disappointed at today's attendance, but let me tell you this: were you to attend meetings sponsored by other industries, you would soon agree with me that we are doing pretty well. So let's carry on."

The business session of the club meeting was featured by the election of three new directors, one from each branch of the industry. The new directors are: William A. Rowe (contracting branch), Robert Allmon (jobbing branch), Ross M. Clark (manufacturing branch), the



**New Board of directors and national staff of the Heating and Piping Contractors National Association. Left to right, standing: M. J. Chagnard, Louisville, Ky.; Edward G. Byrd, New York, N. Y.; Justin A. Kiesling, Houston, Tex.; Harry M. Hart, Chicago; Walter Klie, Cleveland, Ohio; Herbert A. Snow, Boston, Mass.; John S. Jung, Milwaukee, Wis.; and S. Lewis Land, New York, N. Y. Seated: Joseph C. Fitts, New York, N. Y.; Robert D. Williams, New York, N. Y.; Ray L. Spitzley, Detroit, Mich.; J. Lawrence DeNeille, St. Louis, Mo.; and John H. Zink, Baltimore, Md.**

outgoing directors being J. V. Young, Walter R. Mead and H. Porter Wilson. In addition to the new directors the board includes Morris Greenberg, Jack Camp, Frank F. Elliott, Ralph P. Olsen, Frank Mauzy and Emile Heymans.

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## Oil Burner Dealers Plan Huge Trade Association

Plans for the formation of more than 2,000 oil burner dealers into one of the largest trade associations in the country have been announced by Lionel L. Jacobs, vice president of the American Oil Burner Association and chairman of the board of governors of the dealer division. The new organization will be a division of the American Oil Burner Association and will operate under its officers and directors, but it will be managed by its own executive board.

Oliver P. Harris, who has had wide experience in sales promotion work and dealer activities, has been appointed managing secretary. He will carry out the organization plan as adopted at the annual convention of the American Oil Burner Association in Philadelphia last month. The initial membership roll will be composed of the 2,000 dealers handling products of manufacturer members of the A. O. B. A. The potential membership list is 7,500 and it is expected that other dealers will become members in the near future.

One of the first activities of the new association will be the organization of local oil burner associations and the direction of co-operative newspaper advertising campaigns through these local associations in the different localities. Another major function will be the fight on obsolete ordinances carried on in conjunction with the manufacturer members. Dealers in every city where out-of-date or unjust restrictions exist will be organized for a fight in that locality.

Other activities of the division include advice and assistance to dealers in meeting unfair advertising and unfair competition; market research work and the distribution of engineering data pertaining to oil burner installations.

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## Maine State Association Holds Successful Conference

The second conference of the Maine State Master Plumbers Association opened at the University of Maine, Orono, Maine, on June 9. The conference was well attended and the program was opened with an address of welcome by Dr. Harold S. Boardman, president of the university. This was responded to by a few well chosen words from John T. Kerrigan, president of the association. After this formality, Dean Paul Cloke, the presiding officer, presented the speakers of the day.

The first day's program was given over to the subjects of heating and ventilation.

Perhaps the most interesting paper of the day was the one on "Scientific Warm Air Heating as Applied to Domestic Air Conditioning," by James T. Miles, heating engineer of Cleveland, Ohio.

Prof. D. M. Taylor of the department of mechanical engineering demonstrated in detail the methods of figuring the heat losses under different conditions of insulation.

The banquet held on the evening of the first day was well attended and a talk by George T. Noyes, chairman of the program committee, on "Why the Plumber Is Not Making Money" brought out several points that led to interesting discussions. Following are some extracts from Mr. Noyes' paper: "Of course you have removed all the 1928 bath room fixtures, sinks, etc., in your town or at least replaced as many of them as the auto salesmen have traded in 1928 cars. . . . The result of your working overtime, Sundays and holidays making estimates is not primarily to give the customer a better job but an attempt to figure yourself and your competitor out of a real profit on the job!"

Perhaps the most interesting and spectacular contribution of the second day's program was the demonstration of oxy-acetylene welding. It was illustrated by films showing how work of this nature is being done.

The paper on "Practical Psychological Problems that Arise in Business," by Prof. C. A. Dickinson of the department of psychology, was interestingly illustrated by examples of optical illusion and their bearing on display advertising.

The conference closed with a fine talk on "New Movements in Education," given by Dean Paul Cloke of the college of technology.

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## New Jersey Association Appoints Field Secretary

Lester A. Wake has been made state field secretary for the New Jersey Master Plumbers' Association. He will make his headquarters at Newark, N. J.

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## "Home Beautification" Campaign Conducted in Madison, Wisconsin

Plumbing, Electrical and Tinning Week was observed at Madison, Wis., starting June 15, in connection with a "Home Beautification" campaign conducted under the auspices of the Madison Association of Commerce. Besides individual advertising and promotion effort of plumbing concerns in the city, a full page of advertising was published in local newspapers devoted to a discussion of the problems of the home owner in relation to plumbing, eleotrical and tinning activities.

Representatives of the plumbing craft who served on the arrangements committee for the week included Anton Metz, C. E. Bates, Badeau Plumbing & Heating Co., and Frank R. King, state plumbing and domestic sanitary engineer.

The "Home Beautification" campaign consisted of four seven-day periods given over to various phases of home modernization and improvement. The week of June 22 to 29 marked the fourth seven-day period, and was given over to repairs on furniture, furnaces and utensils.

L. R. Friend, president of the Wisconsin Master Plumbers' Association, was in attendance at the conference.

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## National District Heating Association Holds Annual Convention

The National District Heating Association held its annual convention at the Hotel Statler, Boston, Mass., June 2-5, with a representative part of the membership in attendance. Several papers were read dealing with subjects of interest to the heating contractor, and com-

plete abstracts of these will appear in later issues of DOMESTIC ENGINEERING.

H. R. Warfield, of Silica Gel Corp., Baltimore, Md., read an interesting paper on refrigerants and refrigeration in air conditioning. The system described by the speaker has special application in homes, schools, libraries, public buildings, hotels, etc., where steam is supplied from a central station.

Refrigerants and refrigeration in air conditioning was also discussed by R. W. Waterfield.

J. H. Walker of the Detroit Edison Co. spoke on the subject of pipe corrosion. He remarked that recent tests showed that corrosion occurs in the return lines instead of in the steam lines. He further stated that little corrosion occurs in vacuum systems where joints are tight, but that a great deal of corrosion occurs in gravity systems.

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## Chicago Contractors Play Big Oaks

Members of the Plumbing Contractors' Association of Chicago, and guests, gathered at Big Oaks Country Club in June for their regular monthly golf tournament. Forty-eight persons turned in scores for the day.

In Class A, William G. Zeigler won first low net with a 72, and received an ash tray. Second prize, a pair of golf hose, went to A. G. Peterson, who shot a net 77. A bridge set was awarded to John S. MacKenzie, as a result of taking third place with his net score of 83.

F. K. Kveton won first low net in Class B with a score of 73, and was rewarded with a bill fold. Next came Joseph Cannon, with a net 73 but a larger handicap, who received a pair of golf hose. Third place, and a bridge set, was given to William F. Knauss, with a 74.

In Class C for members, first low net was won by George J. Feldkamp with a score of 72, who received an automatic pencil. James W. Fettes, with a net 75, took second place and received a pair of golf hose. Henry H. Diedesch, with a net 78, won a bridge set for third.

First low net in Class A for guests was won by John L. McGregor, who received a silver belt buckle, as a result of turning in a net score of 72. Clyde Savage, with a net 74, took second and received a golf pencil. Charles Barrows, with a net 75, was a close third in this group, and received three golf balls.

In Class B for guests, Frank Ockerlund took first low net with a score of 73, receiving a cigarette and card case. An automatic pencil was given S. P. Holmes for taking second place with a score of 74. C. A. Bolton took third, with a score of 77, and received a card set.

Henry C. O'Callaghan received an automatic pencil for winning the morning qualifying round.

The following won flight prizes: Peter Munn, Henry Swade, W. W. Baer, Fred. Wagner, M. A. Nelson, M. Schulhof, E. J. Young, C. A. Dreier, I. Weil, Ed. Payne, K. K. McKenzie and A. M. Boosey.

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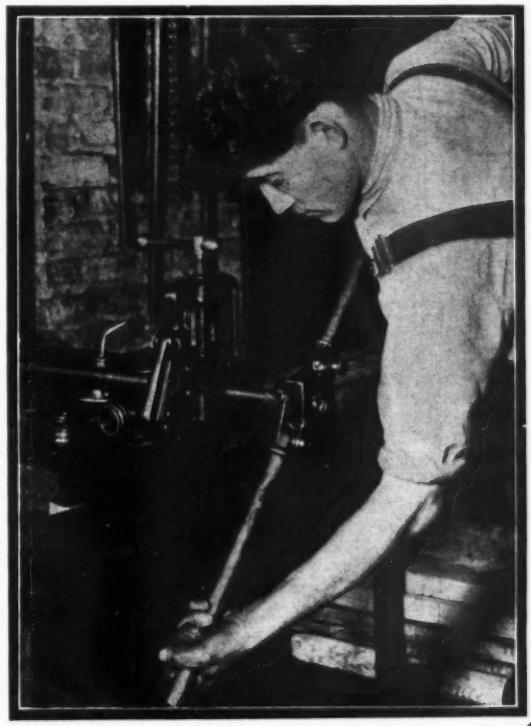
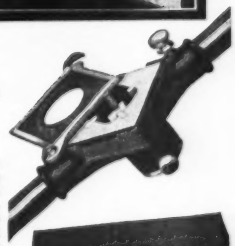
## Western New York Chapter Holds Dinner-Dance

The Summer dinner-dance of the Western New York Chapter of the A. S. H. & V. E. was held June 10 at the Automobile Club, Clarence, N. Y. Sixty members and guests were in attendance. As is the custom, no business or technical meeting was held, the entire evening was given over to sociability and dancing.


ARMSTRONG BROS.
Better PIPE TOOLS



ARMSTRONG BROS.
Stocks and Dies come in Matched Sets



ARMSTRONG BROS. Pipe Dies—both the solid and the adjustable types—have "backed-off" chasers of special alloy tool steel that cut easier, faster—that take a keener edge and hold it. Other features of these dies include: Correct Cutting Angle, Correct Throat Angles and Ample Chip Clearance.

ARMSTRONG BROS. Stocks have smooth finished bodies that fit comfortably in the hand. They are of Certified Malleable Iron; are accurately machined inside and out. They take all standard dies.

ARMSTRONG BROS. DIES AND STOCKS come in matched sets, 4 to 6 dies with each stock with proper bushings. They make the ideal threading equipment.

*Solid Dies and Stocks in Sets*

ARMSTRONG BROS. TOOL CO.
*"The Tool Holder People"*
323 N. FRANCISCO Ave., CHICAGO, U. S. A.
*London Branch:* Armstrong Bros. Tool Co. Ltd.
35 Upper Thames St., London, E. C. 4., England

*Adjustable Dies and Stock Sets*

*Write for Catalog P-10*

*Look for the Arm-and-Hammer. It is the distinguishing mark of the "BETTER Pipe Tools."*

Ozite

PIPE COVERING

*Gives High Efficiency Protection for cold water pipe lines*

For covering cold water pipe, and brine pipe lines. Ozite Pipe Covering is unsurpassed. Made of 100% pure sterilized cattle hair—this high efficiency material means lifetime—or longer—protection. Prepared in bales, it is quickly cut and applied—easily stored. Write today for free sample, prices and facts on this efficient covering.

AMERICAN HAIR & FELT COMPANY
Merchandise Mart » » Chicago

COAL CARBURETOR

BY FAR THE MOST ECONOMICAL SYSTEM OF AUTOMATIC HEAT PRODUCTION EVER PERFECTED!

» Opens a New and Tremendous Market Not Covered by Oil Burners, Stokers, or Blowers. WRITE TODAY «

THE COAL CARBURETOR COMPANY
NEW BRUNSWICK » NEW JERSEY

## Tri-City Development League Elects Officers

At a recent meeting in Rock Island, Ill., the following officers were elected to head the tri-City Plumbing and Heating Trade Development League during the 1931-32 term: Louis Plambeck, Moline, president; Henry F. Lamp, Rock Island, first vice president; C. M. Kivlin, Davenport, second vice president; Kirk A. Journy, Rock Island, treasurer. Mr. Journy was also re-appointed secretary of the league.

The following members of the league have been elected to serve on the board of directors for a period of two years, representing the various branches as indicated:

To represent the manufacturers—E. B. Caldwell of Warren Webster and Co., and Anthony Spoodis of Herman Nelson Corp.

To represent the journeyman plumbers and steamfitters—Mauritz Collin and Christian Schmid.

To represent the wholesalers—C. H. Kilday of N. O. Nelson Mfg. Co. and W. C. Yerger of Standard Sanitary Mfg. Co.

To represent the plumbing, heating and ventilating contractors—A. P. Beck and James Corken.

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## Rockland County Association Holds Annual Banquet

The Master Plumbers' and Fitters' Association of the County of Rockland, N. Y., held its third annual banquet recently at the Villa Lafayette, Spring Valley, N. Y. Following the dinner President Frank Barnes called upon a number of guests, among whom were: William Wolff of Brooklyn, president of the New York State Master Plumbers' Association; Zone Delegate Fred B. Schmalstich of the Bronx association; the Honorable Ferdinand R. Horn, assemblyman of Rockland County; A. A. Alles, Jr., secretary of the New York State Mechanics' Lien Law and Enforcement Association; T. A. Nolan, president of the Westchester County Master Plumbers' and Fitters' Association, and A. H. Karl, past president of that organization.

President Wolff brought the greetings of the state body and congratulated the Rockland County members on their keeping alive an optimistic spirit and their endeavors to have enacted a county plumbing code.

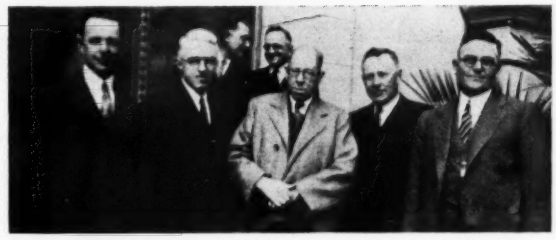
Assemblyman Horn, speaking on the necessity of a sanitary code for Rockland County, said he would do all in his power to assist in having the necessary legislation enacted at the next session of the New York state legislature.

A. A. Alles explained in detail the present New York state lien law and possible amendments to it.

Fred B. Schmalstich, in addressing the members, requested their support and co-operation with other counties of the state in their endeavors to have county codes enacted.

Mr. Nolan asked that a committee of Rockland County master plumbers be appointed to act in conjunction with the Westchester Master Plumbers' Association in its endeavor to have better future master plumbers.

Arthur Evans, secretary and treasurer of the association, was responsible for the successful arrangements for the affair.



**Left to right: Jack Camp, San Francisco; J. B. Hawley, treasurer of the federation, and George B. Stack, both of Sacramento; J. J. McLeod and Victor J. Petersen, both of San Francisco. In the rear: L. E. Remy, Long Beach, and William Goss, San Francisco. Photo taken at the meeting of the Northern California Federation of Plumbing and Heating Industries, held recently at San Francisco**

## San Francisco Trade Golfers Play Sporty Course

A record attendance for the year, excepting the Christmas tournament, and a high-tide mark in point of good-fellowship and the promotion of good-will between equally represented branches of the industry, were achieved at the June golf tourney of the Plumbing and Heating Club of San Francisco and the Bay Cities, when the members—players and non-players—and their guests gathered at the Orinda Country Club on the 25th. The Orinda club is situated in the hills 15 miles back of Oakland, and is considered one of the finest in northern California. Howard W. Finch, San Francisco manager of the Kohler Company and a past president of the Plumbing and Heating Club, acted as member-host.

Aside from its championship rating, this course is considered exceptionally sporty, and although there are plenty of traps, the rolling ground makes it tricky unless the player keeps his drives well straightened out. The 6th, 9th, 11th and 18th are particularly tough, the 6th measuring 567 yards. In spite of these difficulties, birdies were scored by Gabbert, Elliott and Priest.

In the absence of President Young and Vice President Heymans, Chairman Allmon of the golf committee presided at the banquet, when he announced the following winners:

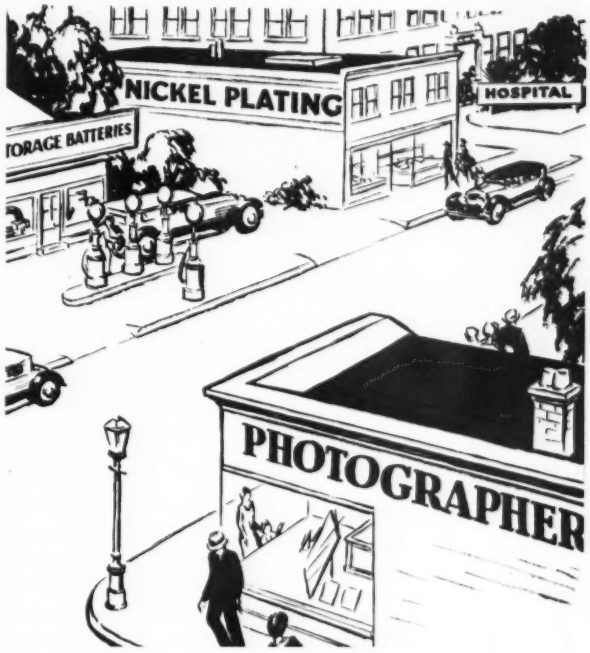
| | Low net |
|---|---|
| Class A—Wm. J. Turner | 73 |
| Class B—H. W. Finch | 71 |
| Class B—F. M. Gabbert | 71 |
| Class B—J. W. Forsythe | 71 |
| Class C—David Turner | 72 |
| Class D—Ralph P. Olsen | 99 |

The three-way tie in class B will be played off at the next tournament, the winner of which will also be awarded the C. F. Church Mfg. Co. trophy for the current period. Strangely enough, R. P. Olsen, D-class winner, also fell heir to the iron cup, high gross trophy.

Further interest was developed at the banquet when informal talks were given by representatives of the manufacturing, wholesaling and retailing branches, namely: Frank F. Elliott, sales manager, Crane Company; Thomas J. Leary, manager, Mueller Company; Benjamin F. Blair, manager, Standard Sanitary Mfg. Co.; Howard W. Finch; William A. Rowe of Anderson & Rowe; Charles Higgins of Higgins and Kraus, and others, all of San Francisco.

Chairman Allmon announced that the next tournament will take place in August, the July tourney to be omitted during the vacation period.


# PROFIT PROSPECTS




Down the street there is money for you. Look up the photographer, the battery service station, the plating plant, the hospital — and every building where corrosive liquids must be drained.

Ordinary pipe in any of these places can't stand the gaff. It needs to be replaced or soon will. You will make a permanent installation and a permanent friend by recommending Duriron Acid-proof Drain Pipe — guaranteed for 20 years.

Contact these prospects — get the *extra* profits. We'll help you with information and suggestions. Just write us.

**THE DURIRON COMPANY, INC.**
**410 N. Findlay St. Dayton, Ohio**

DURIRON ACID PROOF DRAIN-PIPE

RIVERSIDE TANKS

ALL ENDURING COPPER

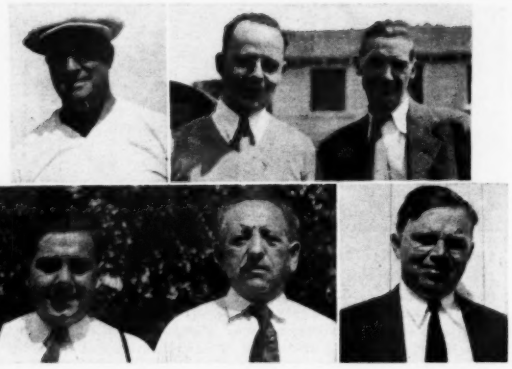
Riverside 20-Year Guaranteed Copper Boilers are in a class by themselves! These sturdy boilers carry this guarantee when the boiler is properly installed. Why not pay a little more and give your customer clean, rustless hot water indefinitely?

Remember! All copper boilers are not alike. When you buy a copper boiler, you pay enough to have one that will stand up for years and years. That's what you get if you order from your Jobber, the Riverside 20-Year Guaranteed Copper Boiler.

Attractive circulars on this boiler sent to you with your imprint, no charge

20 YEAR GUARANTEE

Manufactured Exclusively by
RIVERSIDE BOILER WORKS, INC.
Manufacturers of
*Tanks for the American Home*
CAMBRIDGE, MASS., U. S. A.
New York Office: 11 West 42nd St.



**Top row, left to right: A. R. Hanson, L. O. Koven & Bro., Inc., Jersey City, N. J.; T. M. Gaskim, Richmond Radiator Co., New York City; and J. A. McKenna, Detroit Brass & Malleable Works, New York City. Bottom row: Milton Shaff, Stahot Heater Corp., and Julius Bleiberg, Bleiberg Plumbing Supplies, Inc., both of Brooklyn; and T. J. Maden, Interstate Plumbing Supply Co., Albany, N. Y.**

## Brooklyn and Long Island Jobbers Hold Outing

With a turnout of over two hundred, the annual outing of the Brooklyn and Long Island Supply Credit Association was held in June. Under the direction of A. B. Amsel, of The Republic Iron & Steel Corp., chairman, and others of the entertainment committee, the day's events progressed smoothly.

Leaving the meeting place at ten in the morning, under police escort, the merrymakers journeyed to the scene of the day's activities, where breakfast awaited them. Then came a baseball game, athletic events and a general "good time."

The wholesalers' ball team under big league pitching and coaching by Howard J. Allen, secretary of the association, romped home to a 14 to 4 victory over the aggregation of the manufacturers' representatives. Then came the sporting events. The following chalked up victories:

One hundred yard dash, 1st, Arthur Friedman, 2nd, E. A. Jacobs; shot put, 1st, E. A. Taylor, 2nd, Arthur Friedman; fat men's race, 1st, Arthur R. Hanson, 2nd, Jack Finkelstein; backward race, 1st, George Muller, 2nd, Arthur Friedman; three-legged race, 1st, Robert Foley, 2nd, Charlie Hawk.

A shore dinner at night at the Narragansett Inn, Lindenhurst, L. I., N. Y., where the outing was held, concluded the program.

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## Cleveland Heating Men Hold Golf Meet

The Radiator Heating Industry of Cleveland, Ohio, held its first golf tournament of the season at the Sleepy Hollow Country Club in June. The low gross winners, with their scores were: E. A. Miller, 89; V. H. Miller, 94; W. F. Cook, 98; B. Y. Kinzey, 99; R. H. Morgan, 101.

The blind handicap winners were: F. A. Podwils, Robert Clar, G. Romoser, R. L. Clark and H. A. Gibbons. The following high gross scores were turned in: Howard Porter, 152; H. A. Lawrence, 142; Horace Wetzel, 136.

Prizes were awarded by R. H. Morgan, chairman of the golf committtee. Dinner was served at the club following the tournament.

# MARKETS

## BUSINESS REPORTS FROM LARGE JOBBING CENTERS

ANY change in demand from master plumbers for finishing material during the past two weeks was on the side of betterment, according to the majority of reports from wholesalers in the leading jobbing centers of the country. Reports indicate that rough plumbing material moved at no better than a moderate pace and in about the same volume as during the preceding two weeks. Demand for boilers, radiation and other heating products was light, according to manufacturers. Buyers for wholesale houses are limiting their commitments, almost without exception, to near-at-hand requirements, but the aggregate of these small-sized orders mounts to fair proportions, according to some sellers.

Stocks of materials at manufacturing sources of supply are well proportioned and wholesalers report no difficulty in securing staple items in quick time. Jobbers are ordinarily in a position to meet the requests of the contractor customers promptly, regardless of their low inventories. A maker of magazine feed heaters has announced a reduction in prices, with the statement that this is justified by increased sales which have lowered manufacturing costs.

During June 1 through 15 construction contracts in the 37 states east of the Rocky Mountains amounted to $164,732,800, according to F. W. Dodge Corp. Public works and utilities was the leading major construction class with $81,917,800. Non-residential building amounted to $46,618,900 and residential building to $36,196,100.

May shipments of enameled sanitary ware, as reported to the Bureau of the Census by 21 manufacturers who comprise practically the entire industry, were 181,366 pieces, as compared with 154,832 pieces in April and 242,200 pieces in May, 1930. Total shipments for the first five months of this year were 866,465 pieces, as compared with 1,113,534 pieces in the corresponding period of 1930.

May shipments of vitreous china plumbing fixtures, including all vitreous chinaware which in regular practice is connected with a drainage system, as reported to the Bureau by 25 manufacturers, were 156,332 pieces, as compared with 145,778 in April and 228,989 in May, 1930. Total shipments for the first five months of 1931 were 861,365 pieces, as compared with 1,151,458 pieces in the corresponding period of 1930.

New orders for 646 steel boilers were placed in May, according to reports submitted to the Bureau by 73 manufacturers, comprising most of the leading firms in the industry, as compared with 689 boilers in April, and 1,283 boilers in May, 1930. Total new orders for the first five months of 1931 were 3,079 boilers, as compared with 5,092 boilers in the first five months of 1930.

# The Metal Market

| | July 7 | Avg. May, 1931 | Avg. Mar., 1931 | Avg. 1929 |
|---|---|---|---|---|
| PIG IRON— | | | | |
| No. 2 foundry, Chicago | $17.50 | $17.50 | $17.50 | $20.00 |
| PLATES AND SHEETS— | | | | |
| Steel boiler plates, Pittsburgh, per lb. | 1.65c | 1.65c | 1.65c | 1.93c |
| *Blue annealed sheets, No. 10, Pittsburgh, per lb. | 2.00c | 2.00c | 2.05c | 2.17c |
| Hot rolled annealed sheets, No. 24, Pittsburgh, per lb. | 2.40c | 2.25c | 2.35c | 2.85c |
| Galvanized sheets, No. 24, Pittsburgh, per lb. | 2.90c | 2.80c | 2.90c | 3.57c |
| TIN— | | | | |
| Straits tin (spot) New York | 26.50c | | | |
| LEAD— | | | | |
| E. St. Louis | 4.22½c | | | |

**The Old Metal Market**
Dealers' Buying Prices

| | Per lb. | | Per lb. |
|---|---|---|---|
| Aluminum clippings | 14 c | Copper, light | 5¼c |
| Block tin pipe | 16 c | Heavy copper and wire | 5¾c |
| Brass, light | 3¼c | Zinc, old | 1½c |
| Brass, heavy yellow | 3⅜c | Lead, heavy | 3¼c |
| No. 1 comp. red brass | 5½c | Solder joints (close cut) | 4½c |
| Heavy crucible copper | 6¼c | | |

NOTE: Prices are those quoted on Tuesday of this week.
*Comparative prices based on No. 13 sheets.

◆

## Fuel Oil's Spread

Ordinary fuel oil used in domestic oil burners is well known to sailors for its calming effect on tempestuous seas. A recent test made by government scientists showed that 7,000 pounds of oil dumped at sea would drift 90 miles and cover the water for 900 square miles.

## London Engineers Hold Summer Meeting

The Institution of Heating and Ventilating Engineers of London, England, held its Summer meeting at Harrogate, on June 22, 23 and 24. The meeting was presided over by President Sam Fox. A council meeting was held on the afternoon of the 22nd, and that evening the members and their friends gathered for a reception in the Hotel Majestic.

A. F. Dufton read an interesting paper on the subject of radiant heat, at the Tuesday session. That afternoon, golf, tennis and a motor drive were on the program. The banquet was held Tuesday evening. Wednesday's program also contained a number of entertainment features.

◆

## Kansas City Chapter Holds Spring Party

A fitting climax on Monday afternoon and evening, June 15, to a most successful year's activity of the Kansas City Chapter of the A. S. H. & V. E., under the guidance of E. K. Campbell as president, was the annual spring party at Quivera Lakes club house, not far from Kansas City. There were eighty-five present, and all enjoyed swimming and boating preceding dinner.

Routine business was dispatched quickly, and new officers and board of governors duly elected as follows: president, John M. Arthur; vice president, W. A. Russell; secretary, D. D. Zink; treasurer, Emil Haas. Board of governors: E. K. Campbell, Thomas L. Dawson and John G. Lewis.

Professor Cady of Kansas University gave an interesting talk and demonstration on "Liquid Air."


# More than 4000 plumbers hire this "never-wrong"

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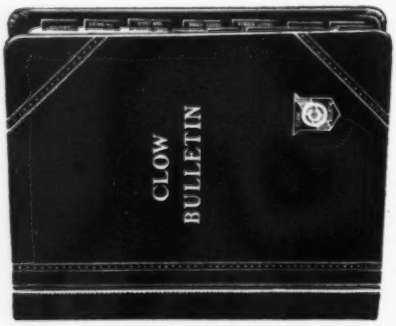


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## Will Move Soon to New Building

The new $10,000 store building of the Will Rees Plumbing Company, located at 250 East Broadway, Salt Lake City, Utah, is expected to be completed before the first of August, at which time the concern will move from its present location at 164 Regent street.

The company is planning to extensively merchandise from the new store and will carry a complete stock of plumbing equipment, accessories and allied lines. The new store will include a display room, private offices and will use concealed radiation, unit heating and a stoker.

The firm is one of the oldest in Salt Lake City, having been established in 1890 by Will Rees. At the present time it is operated by Will Rees and John W. Dudley.

◆

## Utah Association Plans Outing

The Utah State Association of Plumbing and Heating Contractors will hold its annual outing at Lagoon, Utah, on August 1. Tentative plans call for a ball game, races, dancing in the evening and amusements for the children.

The committee in charge includes President George W. Bruerton, Salt Lake City; Val W. Palmer, Logan; Alex Mortensen, Provo; Leo S. Holbrook, Bountiful; Charles Stone, Ogden, and Morgan S. Lott, Lehi.

A large attendance is looked for by those in charge of arrangements.

◆

## New Air Line Uses Oil Burning Planes

The world's first regular air service using furnace oil for fuel will be inaugurated this summer between London and Berlin by Lufthansa, German air line. Giant four-motored Junkers G-38 planes will carry freight between the two capitals. Their fuel is the ordinary furnace oil widely used in American homes.

◆

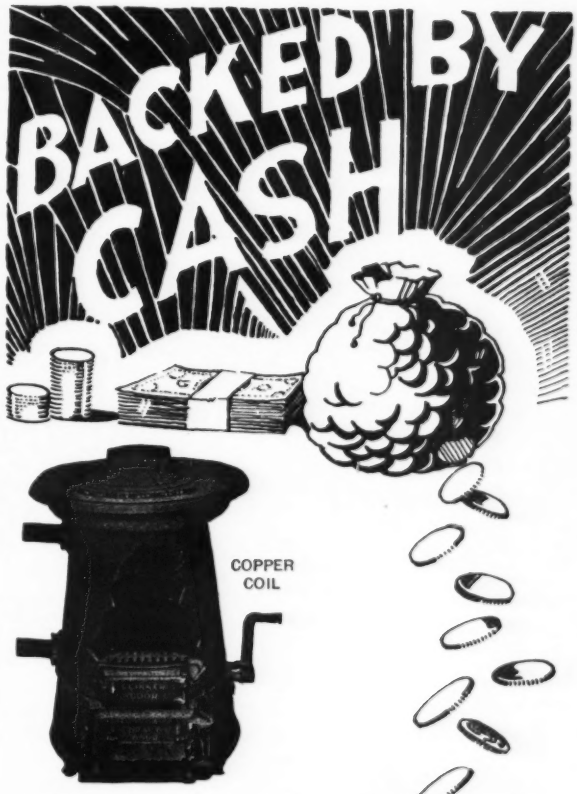
## North Shore Golfers Play Country Side Course

The North Shore Master Plumbers' and Steamfitters' Golf Association, composed of members of the trade in the suburbs just north of Chicago, has been holding regular golf tournaments since early this Spring. The June tournament was held at the Country Side Country Club, near Wheeling, Ill. Each of the meets has been well attended. George Wible of Evanston is in charge of arrangements for the golf activities. H. A. Bergdahl, of Crane Co., is secretary of the golf organization.

◆

## Death of M. J. O'Neil

M. J. O'Neil, pioneer plumbing and heating contractor of St. Paul, Minn., died at his home in that city on June 10, in his 69th year. He had been ill for five months. Born in Waverly, N. Y., Mr. O'Neil moved to St. Paul in 1883 and established a small plumbing and heating business. His business grew rapidly and he was a leading figure in the building up of the present St. Paul loop district, constructing many hotels, store and business buildings. Besides his contracting business, Mr. O'Neil was also interested in real estate and he was a large property owner. His wife died in 1928. Surviving are one son, three daughters, a brother and a sister.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Install a Cle-Bar Water Heater on trial in your customer's home. If, after 60 days, they are dissatisfied or if Cle-Bar does not do what is claimed for it, we will allow you TWENTY DOLLARS for your expense in installing and removing it plus the cost to you of the heater on its return to us. This offer backs up our belief in the complete superiority of Cle-Bar Water Heaters.

WRITE NOW FOR COMPLETE NEW SALES PLAN DETAILS.

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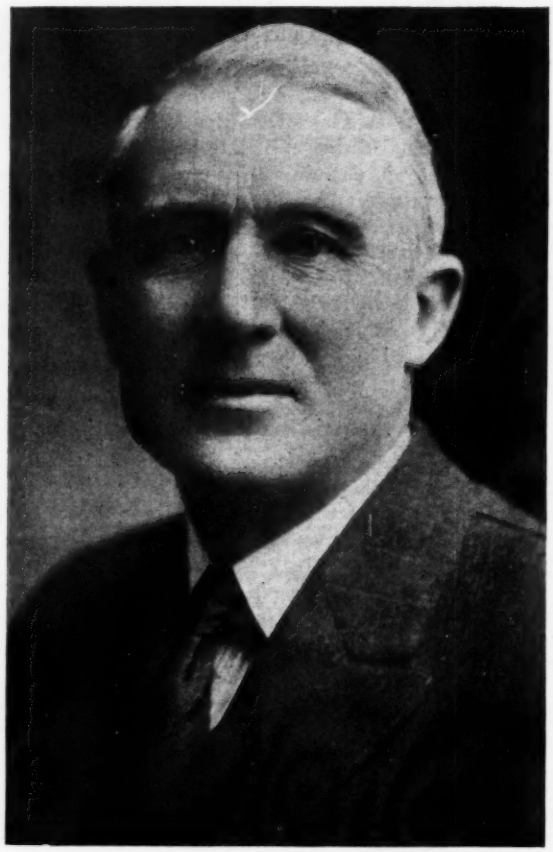
WATER HEATERS

Cle-Bar Water Heaters have a Copper Coil which means no Rust or Scale and faster heating of the water giving the maximum supply of hot water with the minimum of fuel and care.

CLEGHORN COMPANY, 86 BROAD ST. BOSTON, MASS.

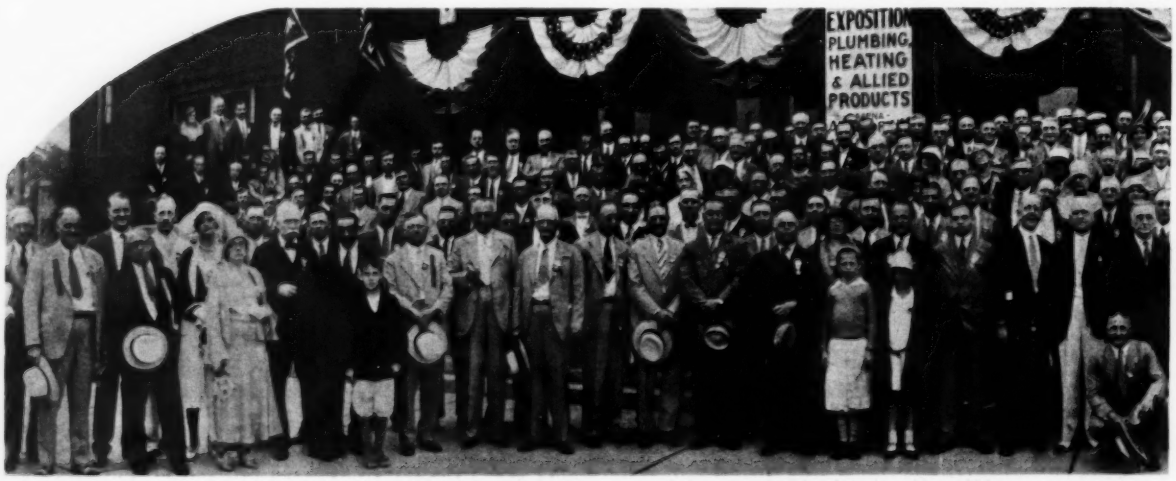
# 49th Convention of Master Plumbers Is Held at Milwaukee



P. W. Donoghue, Boston, Mass., elected president, National Association of Master Plumbers

"IN NUMBERS there is strength." These words, from the address of acceptance of P. W. Donoghue of Boston, Mass., newly elected to the presidency of the National Association of Master Plumbers, indicates the most important of his administrative policies for the coming year. That his interest will be practically expressed is evidenced by the fact that during the past year, Mr. Donoghue went into the states of Vermont and New Hampshire and there organized state groups.

Accepting the office at the hands of the 49th annual convention of the association, held in Milwaukee, Wis., on June 23, 24 and 25, Mr. Donoghue said further: "If I am successful in my administration, a great deal of that success will be due to the knowledge I have gained in George H. Drake's administration." Speaking of the permanent office, to be located in Washington, D. C., Mr. Donoghue said: "I think the national office will be the thing that will carry the association along for another fifty years. The most important thing we are facing in our fiftieth, or golden aniversary year, is an increase




Part of the group picture of delegates and guests attending the annual convention of the National Association of Master Plumbers

E. B. Kleine, Cincinnati, Ohio, elected vice president, National Association of Master Plumbers

# P. W. Donoghue Is New President--E. B. Kleine Named Vice President

in membership. In numbers there is strength. If you men would only go home and take a little active interest for one year and jump this membership from the ten thousand we have to twenty thousand, we should have a different standing throughout the country. We must maintain in the public mind that we are the retailers of the plumbing industry, that we do perform a service and that we do assume responsibilities."

### Election of Officers

Jere L. Murphy, of New York, took the floor when nominations were the order of business, and placed the name of P. W. Donoghue, of Boston, Mass., before the convention as its 1931-1932 president. Albert E. Roberts, of Boston, seconded the nomination and in the course of his remarks referred to the disposition of the $500 voted to Mr. Donoghue in appreciation for his successful handling of the Boston convention. Mr. Roberts told how, when the sum was presented to Mr. Donoghue, he refused to accept it for himself, but turned it over to the Massachusetts association for a membership drive. The result

Another part of the group picture of delegates and guests attending the annual convention of the National Association of Master Plumbers

of that drive was an increase in the Boston association of 25 per cent, and an increase in the state association of 22 per cent.

Following Mr. Roberts' remarks, New Jersey, Oklahoma, Wisconsin, Pennsylvania, Missouri, Washington, D. C., North Carolina, Illinois, Indiana, Virginia, Tennessee, California and Ohio, put in their indorsements before the nominations were closed and Mr. Donoghue was unanimously chosen for the office of president.

William F. Hildeman, of Chicago Heights, Ill., arose to place the name of E. B. Kleine, of Cincinnati, Ohio, in nomination for the office of vice president.

George H. Drake, Buffalo, N. Y., retiring National president

John J. Vogelpohl, a past national president, under whom Mr. Kleine served as national secretary, seconded the nomination and there were quick indorsements from the delegates of various states, until it was obvious that the choice of Mr. Kleine was unanimous. In his speech of acceptance Mr. Kleine said: "I pledge you this: if a willingness to serve this organization, if a real desire to help make the president's administration a sucess, will count for anything, then I won't have very much fear. I will give you the best I have, and I hope that when you return one year hence, that I shall have no apologies to offer."

Mr. Donoghue then indicated his choice for his national secretary as J. Preston Perham, of Boston, and the convention promptly confirmed that choice. Henry Longley, of Wilmington, N. C., took the floor to re-nominate H. O. Green of Tulsa, Okla., to be the national treasurer. Mr. Green, as with the other officers, was the recipient of a unanimous vote. As has always been the custom, the convention ratified in advance the new president's selections for his board of directors.

## Resolutions

The following resolutions were submitted and acted upon at Milwaukee:

1. This resolution, submitted by the board of directors, had to do with the establishment of a national office, to be permanently located in Washington, D. C. The resolution was passed without debate, the only comment being from David Craig of Boston, a past national president, who arose to say that while he had no intention of opposing the resolution, he did want to say a word about the passing of the old order. "I hope it succeeds," was his closing remark.
2. This resolution was submitted by the conference committee and is to the effect that the association believes it desirable that mechanical contracts be separated from the general contracts on all public work, and that specifications for such work contain "a pre-qualification clause based upon the financial standing and experience that will guarantee satisfactory performance of the work." The resolution was adopted.

H. O. Green, Tulsa, Okla., re-elected National treasurer

3. and 4. These resolutions were not acted upon. Resolution No. 3 covered the same ground as Resolution No. 2, and Resolution No. 4 was withdrawn by the New Jersey association, which presented it.
5. This resolution, submitted by California, asked the aid of the national association in securing the extension of equitable and just credit. It was passed by the convention.
6. This resolution grew out of the recent discontinuance of the Sanitary Ware Manufacturers' Inspection Bureau on the west coast. The resolutions committee asked that the convention request that this bureau be again put into operation and that similar bureaus in other states be set up. As adopted by the

convention, the resolution calls for a committee of five to carry on this work.

7. This resolution, submitted by New Jersey and adopted, calls attention to the fact that 1932 will mark the fiftieth anniversary of the organization of the national association, and directed that a suitable proclamation be prepared to commemorate this event.

**J. Preston Perham, Boston, Mass., elected National secretary**

8. This resolution was handed in by the board of directors recommending that a committee be appointed to investigate and report to the next meeting of the board of directors on the question of a suitable minimum plumbing code. The resolution was adopted.
9. This resolution also emanated from the board of directors. It calls for the appointment of a special committee by the incoming president to confer with a manufacturers' committee "to devise ways and means to improve the conditions of the plumbing and heating industry as a whole." This resolution was adopted.
10. The purport of this resolution was that the convention go on record as endorsing and maintaining the present scale of wages for the plumbing and heating industry throughout the United States. After a discussion on the floor had developed the fact that various local association officials felt that such a resolution would tie their hands in meeting local conditions, this resolution was withdrawn.
11. This resolution was brought in as a result of the fact that there is a general movement in the country to amend or modify the Sherman Anti-trust Law and the Clayton Act. The sense of the resolution was that the members of the association, through the state organization "extend our co-operation to those agencies which in an honorable and laudable effort to

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SUPER-TEST
HOT WATER SUPPLY BOILERS

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CLEVELAND BROOKLYN NEW HAVEN DOVER
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preserve and retain their investment and their business, do formulate and initiate a definite plan."

On a question from the floor as to whether or not this resolution made it compulsory for the various state associations to work out a method of co-operation, President Drake replied that the resolution was merely a recommendation. The convention endorsed it.

12. This resolution was presented by the Scholarship Committee and read: "Inasmuch as the income from our investments will be in excess of the cost of maintaining the eight scholarships at Carnegie, we therefore recommend that the printing of the prospectus, and other expenses of the committee, be paid from the income from the investments as far as possible." This resolution was approved.

The exhibition held in conjunction with the convention included a complete display of plumbing and heating products and attracted a large attendance.

The active work done by retiring President Drake was recognized in the appreciation reflected by the delegates and members. In addition to the convention activities as reported in this issue, and the gas appliance development covered on page 32, our next issue will carry abstracts of the reports of the conference, standardization, scholarship and trade practice committees, all of whose work show the impress of Mr. Drake's active direction.

### Report of the Special Committee

At the convention held in Boston, Mass., last year, a special committee was appointed by President Drake to study the subjects of authorized dealership, certified plumbing, bonding of contracts and insurance of membership. This committee, which was composed of T. W. Merryman, Chicago, Arthur Lahr, Lafayette, Ind., C. A. Hunter, Alexandria, La., George W. Frank, Buffalo, N. Y., and President Drake, submitted complete reports on their findings on each subject. The committee's recommendations were unanimously accepted by the convention.

### Authorized Dealership

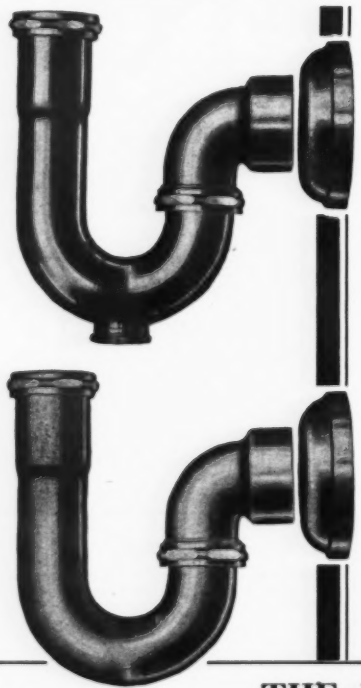
Concerning authorized dealership the report said in part: "It has not been universally adopted and has not worked as successfully as your committee believed it should. Instead of co-operating and providing real authorized dealers, two of our leading manufacturers established a Qualified and Certified dealership plan, and the result of this latter course is well known to all members of this association.

"Your committee, therefore, recommends that no further action be taken by this association in sponsoring this plan to its membership, feeling that if any manufacturer desires to dispose of his wares through a Selected dealership plan it is a matter of his concern alone. This association should not interfere with the distribution of any manufacturer's goods, wares or merchandise, but we should only enlighten our own members in the successful operation of their individual business."

### Certified Plumbing

In its report on certified plumbing the committee said in part:

KEENEY PRODUCTS



The adjustable feature of Keeney Sink Traps makes them far easier to install.

This big point coupled with the fact that the design and workmanship are of the highest standard makes Keeney Traps outstanding.

Made of seamless tubing and finished in nickel or chromium.

◆◆◆

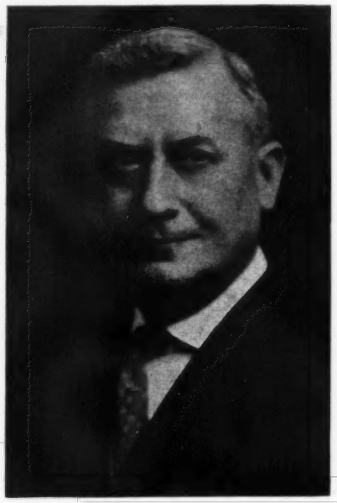
Check over the Complete Keeney Line.

It will be well worth your while to be acquainted with these high quality staple products.

Make Keeney your own source of supply.

THE KEENEY MFG. CO., NEWINGTON, CONN.

"In recent years the rapid growth of the direct-to-consumer supply houses in the plumbing field and the increasing number of complaints of improper installations brought to the attention of our local associations throughout the country, leads us to believe that the public for its own protection should be given the opportunity to discriminate between the regular established licensed master plumber and the irresponsible or unlicensed 'handy man' making plumbing installations.



**George W. Frank, Buffalo, N. Y., retiring National secretary**

"Therefore, we go on record as favoring certified plumbing and encourage local associations of master plumbers to co-operate in their respective localities to inaugurate an effective advertising campaign to combat the insidious inroads which have been made in our industry and restore to the master plumber and the manufacturer of quality plumbing goods, the confidence of the public to which they are entitled." The committee further recommended that a committee be appointed to study this subject and to formulate a practical plan that can be carried out by various local associations.

### Bonding of Contracts

Concerning the bonding of contracts, a subject brought up at last year's convention, the committee report said in part:

"Your committee can see no material advantage to either the contractor or the owner and makes no recommendation upon the subject, but believes that if such contract is to be made and bonds furnished to carry out the contract, it is entirely up to the individual member and not a matter for this association to consider."

### Insurance of Membership

A resolution requesting the National office to investigate the advisability of offering group insurance to the membership on life, health and accident, was introduced at last year's convention. The committee's report on this matter said in part:

"Your committee, realizing the responsibility of collecting dues under the present system, also the added


ENTERPRISE
"35"
BALL COCK

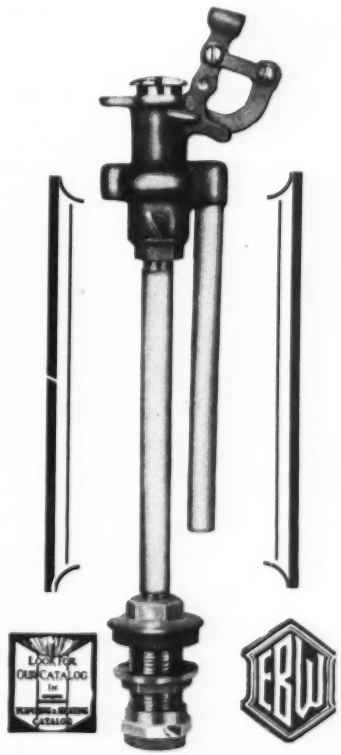
A new Enterprise "35" Ball Cock in the tank is like a new set of spark plugs in a car or a new set of tubes in a radio.

It reduces water waste, it makes for quiet operation and it is particularly adapted to replacement. SELL THE ENTERPRISE "35" ON THOSE REMODELING JOBS.

Let them help you make old houses new and save their owners money and annoyance from needless noise.

The Enterprise "35" has renewable chromium seat. Fits any tank because there is no overhang leverage. Quickly installed as body can be adjusted after tightening locknut. When making repairs it is not necessary to remove refill tube as body lifts off by loosening thumb screws. Plunger easily removed. Furnished with 5/8" shank 1 3/4" long. Can also be furnished with long repair shank, 3/4" and 1/2" and Douglas Thread.

*From your jobber. Order today!*




The Enterprise Brass Works
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**NO-MAR JAWS**

**RIDGID Bench Vises offer you special no-mar jaws that handle nickel-plated pipe without a scratch.**

**PIPE RESTS**

**All RIDGID Vises are equipped with pipe rests. Post and stand patterns have tool and oil can holders.**

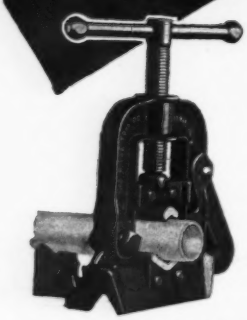
**PIPE BENDERS**

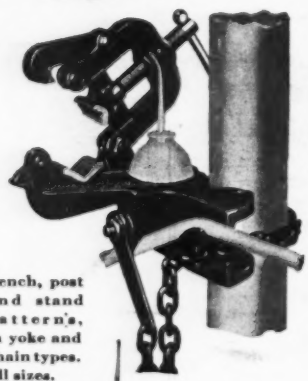
**All RIDGID Vises have pipe benders—handy, well designed—a feature worth having.**

**ENDURANCE**

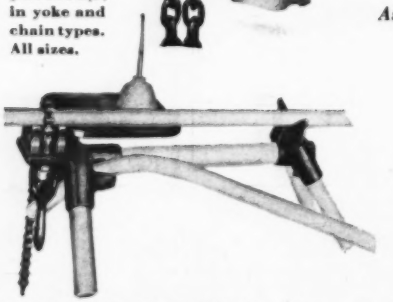
**Tough and strong, equal to the hardest daily usage, good for years of work—that's the character of RIDGID Vises.**

*Ask your Jobber*





**Bench, post and stand patterns, in yoke and chain types. All sizes.**



There are RIDGID Pipe Wrenches Cutters Vises & Threaders

THE RIDGE TOOL CO., ELYRIA, OHIO

RIDGID PIPE TOOLS


expense to the National office in endeavoring to carry out a plan of this kind with a membership dependent upon volunteer service through the state associations does not recommend any insurance plan at this time. However, if the individual states were to take this matter up we

**Walter Klie, of Cleveland, Ohio**

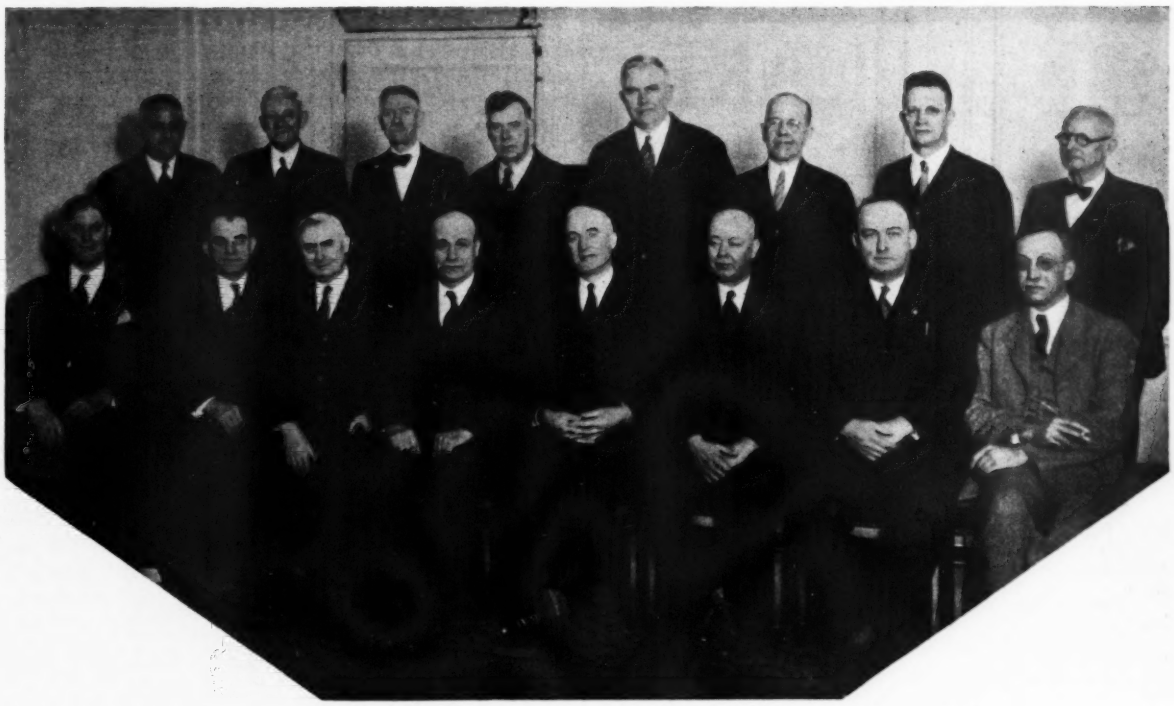
believe it would be more feasible, and recommend such action for state consideration."

### Speech Arouses Discussion

During the second day of the convention Homer J. Buckley, of Chicago, an advertising expert, addressed the convention, voicing some of the more common criticisms of the master plumber. His ultimate conclusion was that the master plumber must become interested in the sale of specialties.

Following Mr. Buckley's address, Walter Klie, of Cleveland, Ohio, took the floor to say: "In selling specialties there are involved various expenses, and if the plumbing and heating contractor is to become a specialty salesman, I want to ask Mr. Buckley whether he believes and would recommend to the contractor that he spend money in large quantities for a display room, for salesmen, for advertising, for finding prospects and following them up, on a 25 per cent discount when every other con-

**Wilbur R. Dosher, Wilmington, N. C.**



**Front row, left to right: J. F. Donovan, Buffalo; Jere Sheehan, St. Louis; George W. Frank, Buffalo; George H. Drake, Buffalo; P. W. Donoghue, Boston; H. O. Green, Tulsa; H. E. Longley, Wilmington, N. C.; Lewis R. Friend, Milwaukee. Back row, left to right: Fred A. Beier, St. Paul; George H. Werner, Orange, N. J.; Chas. M. Swinnerton, Los Angeles; Roy E. Thompson, Tacoma, Washington; Robert J. Barrett, Washington, D. C.; Maney J. Feeney, Philadelphia; E. B. Kleine, Cincinnati; Richard G. Thomas, San Antonio**

tractor in the community, whether he does or does not participate in any of those expenditures, can buy at the same price.

"Every specialty with which I am familiar has in the first place the protection of exclusive or limited franchise and a proper mark-up. I think one of the very definite reasons why the plumbing and heating contractors of this country have not done an adequate job of merchandising is that, under the present set-up, it would be absolutely suicidal to tell him to take on such expenses today in the face of the lack of a proper discount and lack of protection."

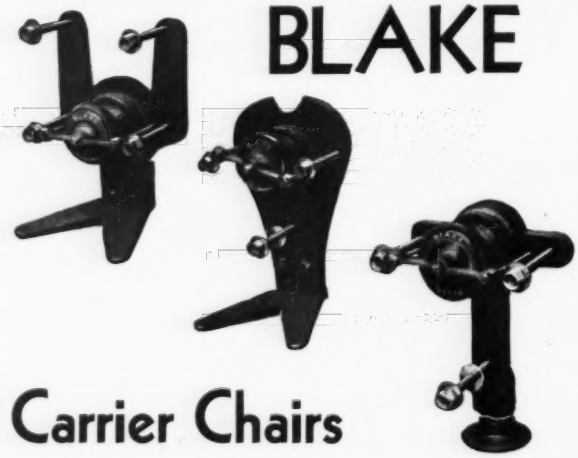
David Craig, of Boston, a past national president, took the floor to object to what he called, the scolding tone of Mr. Buckley's address. "It was the salesmanship of your high-pressure salesman that brought on your present difficulty," said Mr. Craig.

Mr. Klie again rose to say: "It was not my intention to resent what has been called 'scolding.' I do not want the manufacturers and wholesalers here to go away thinking 'There it is—they don't want to merchandise.' I wanted them to go away with the question 'How can a merchandising program be conducted so that it is not suicidal, but can be done profitably?' I hope that it will get the co-operation and study of the manufacturer and wholesaler."

At a later point in the proceedings Wilbur R. Dosher, of Wilmington, N. C., leaving his place to take a position below the platform and facing the convention, said: "I am not here to speak disparagingly of this convention, but I think it is high time, when men travel thousands of miles to attend a convention to seek information, so that they can go back home and carry on better than they have in the past, we make some investigation as to the class of speakers we are going to have to address us, and of the line of talk they are going to make regarding the intelligence of the men here represented. We must remember that such talks go out to the membership at large.

"It has been my policy to bring my boy with me to these conventions, so that if he sees fit to carry on my work, he can receive information that will make him love this business even better than I have. But I am glad something interfered so that he could not come at this time, for I would have been ashamed to have him hear his dad ridiculed as a nincompoop and a numbskull. I want to say this: When a man gets on a platform to talk and makes remarks in general, he ought to base them on a general knowledge." Here Mr. Dosher referred to the district covered by the remarks of the speaker and indicated that his own knowledge of the men in that district was quite to the contrary.

"I may be wrong, but no neighbor of mine can come in my home and spank my children. Among you who are participating in this meeting today, how many are building and loan directors, how many are bank directors and representatives of other institutions? You would probably be surprised. There are lots of men who have civic, political and religious influence in their cities.



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The three illustrated are part of a long line of wall hung closet fittings which are made to fit any manufacturer's bowl (either siphon jet or blowout type).

They are adjustable vertically at the wall — extremely sturdy with heavy studs and nuts — each fitting is supplied with a test cap.

The Blake plant is equipped to design and service any installation regardless of size.

Be sure — use the "Tested Blake" — send for complete Blake Catalog. Blake Products are sold by jobbers everywhere.

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ROCK ISLAND « ILLINOIS

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Pipe Threading Machine

MOTOR DRIVEN
1" TO 4" RANGE

Increase your profits by saving your time. Curtis machines are portable — easy to operate — fast — and moderate in cost.

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THE CURTIS & CURTIS COMPANY
318 Garden St. Bridgeport, Conn.


"Did you ever stop to think of the qualifications that some of the manufacturers and wholesalers demand of us? We must be mechanics; we must be business men; we must be diplomats; we must be salesmen; and now we have to be specialty salesmen. I want the young men here to go home and be themselves, and not try to live up to a lot of rules which they may not be particularly fitted to follow."

On a motion from the floor to strike out of the proceedings the address which was under fire, Jere Sheehan, of St. Louis, took issue with the motion and on the ground of courtesy indicated that it would be impossible for the association to take such a step.

### Allentown Plan Described

In the course of this particular address, as well as in the president's report, favorable reference was made to a plan of co-operation now in effect in Allentown, Pa., between a wholesale house and local contractors. An objection to the reference to this plan was made on the ground that, as far as the objector understood, it was being operated under a blanket 10 per cent commission rate to the contractor. This idea President Drake promptly and emphatically denied. "I investigated this whole plan thoroughly," said President Drake. "They are advertising a single bathroom outfit in competition with a mail order house at a price that carries 10 per cent for the contractor. They carry this outfit, and a kitchen sink, which are sold at the price of the cheap bathroom outfit in the direct-to-you house, but it is the only thing in stock that carries a 10 per cent discount to the plumber. Everything else in the showroom carries a regular discount to the trade.

"They are working together and the master plumbers are satisfied to carry on that way. If you will remember my report, I said that the Allentown plan might work satisfactorily in other cities of not over one hundred thousand population."

Following President Drake's remarks, he called upon a member of the Allentown group who said: "Everything your president has told you concerning this plan is accurate. Furthermore, this particular outfit is displayed down in the basement. The customer has to go all the way through the display room to get to this outfit and almost invariably the management of that supply house sells the customer better fixtures. If we bring the customer in, that is all they want us to do."

E. D. Swoyer, president of the Pennsylvania association and a member of the Allentown association, also took the floor to confirm what had been said about the plan and to indicate that the members in Allentown are well pleased with its operation.

### The Opening Formalities

The convention was opened by Walter W. Dusold, president of the Milwaukee association, who welcomed the delegates and guests and told them something about the city of Milwaukee. Mr. Dusold presented National President George H. Drake with a large bouquet of flowers from the Milwaukee auxiliary and also a gavel from the Milwaukee Master Plumbers Association. He then turned the meeting over to President Drake, who responded briefly.

The Hon. Charles B. Perry, of Milwaukee, speaker of the Wisconsin Legislative Assembly, was scheduled to welcome the visitors to the state. An unexpected contingency, however, made it impossible for him to be present and his place on the program was filled in an able manner by L. R. Friend, president of the Wisconsin Master Plumbers Association. Mr. Friend told of the hard work done by the state association in assisting the Milwaukee

**F. C. Kuetemeyer, Milwaukee, chairman of convention and exposition committee**

group in arranging for the convention, and he, too, welcomed the visitors.

Representing the City of Milwaukee at the opening session was the Hon. Cornelius Corcoran, acting mayor. He called attention to Milwaukee's high health standards, and particularly to its sewage disposal plant. He said this plant has been studied by engineers from all sections of the country and is considered one of the most efficient in existence. He remarked that each year the plant produces more than $600,000 worth of fertilizer. In closing, he urged his hearers to exert every effort to guard against pollution of streams, lakes and rivers.

Response to Mr. Corcoran's address was made by National Vice President P. W. Donoghue, who said that Milwaukee had more than fulfilled the promises made at Boston last year when requesting the privilege of entertaining the 1931 convention.

Mr. Donoghue said that the proclamation of Philip F. LaFollette, governor of Wisconsin, in designating the week of June 22 as "Public Sanitation Week," was a compliment to the plumbing industry.

Mrs. W. E. McAndrew of Tampa, Fla., president of the National Auxiliary, was introduced by President Drake and presented with a beautiful bouquet of flowers. In a short address, Mrs. McAndrew extended the greeting of her organization and paid tribute to Mrs. E. D. Hornbrook of Kansas City, Mo., the founder of the auxiliary and for many years its president, and other pioneer leaders of the organization. She said that the auxiliary was prepared to announce at this year's convention a new activity, the "Past President's Scholarship."

Upon being escorted to the speakers' platform a few moments later, Mrs. Hornbrook expressed her pleasure


**TABER SUMP PUMPS IN GENERAL USE**

Built for 5 ft. pit. Single and Duplex Units

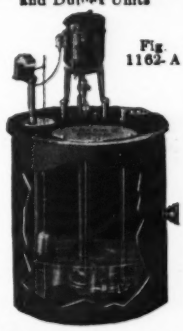


Fig. 1162-A

Sold with and without tank

The larger Taber Sump and Sewage Pumps are being specified and used on jobs requiring high grade equipment. Following are single unit sizes in general use. . . . 1750 R.P.M. 60 Cycle and Direct Current.

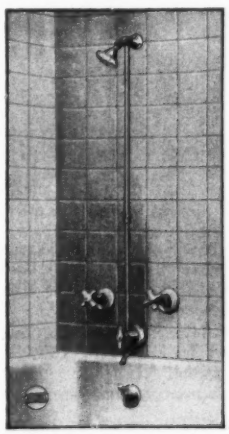
| Type | G.P.M. | Head | Outlet, in. | Plate In. | H.P. | Wgt lbs. |
|---|---|---|---|---|---|---|
| AL-25-2 | 25 | 20 | 1 | 24 | ¼ | 272 |
| AL-50-2 | 50 | 20 | 1¼ | 32 | ¾ | 350 |
| AL-75-2 | 75 | 20 | 1½ | 36 | 1 | 436 |
| AL-100-2 | 100 | 20 | 2 | 36 | 1½ | 481 |
| AL-150-3 | 150 | 20 | 2½ | 36 | 2 | 607 |
| AL-200-3 | 200 | 30 | 3 | 36 | 3 | 675 |
| AL-300-3 | 300 | 30 | 4 | 36 | 5 | 772 |

Write for complete Bulletin 88-629

TABER

TABER PUMP CO. *Est. 1859*

Taber Pump Co., 290 Elm St., Buffalo, N.Y



THE Season for Showers is here and everyone who has a tub without a Shower is a prospect for either

**THE PARKWAY, BELDEN or BATHADAY SHOWER**

Easy and inexpensive to install. Write today.

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LOOK FOR OUR CATALOG IN SWEET'S PLUMBING & HEATING CATALOG

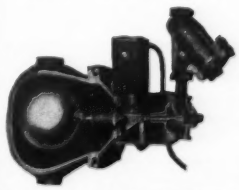
**Now is the Time**

Moore Radiator Hangers will sell easily now. Order them from your jobber. Take them out on those remodeling jobs. Make the extra profit and satisfaction that Moore Hangers always assure.

*From your jobber*

CARTY & MOORE ENGINEERING CO., Inc.
611 W. Larned St., Detroit, Mich.

**Don't tell 'em to forget « « « « and then ask 'em to remember!**



When a man pays for automatic heat, he buys the right to forget his boiler room. He can do this if his oil-burner stoker or gas burner is protected by a McDonnell No. 30 Series Safety Feeder with No. 31 Emergency Switch. There is a size for every type and size of boiler—and a good profit in every job.

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IS SOLVED
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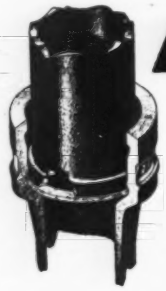
"SQUARE GEE'S"

SQUARE Pipe — "GEE" Fittings

MALLEABLE, CAST IRON — DRAINAGE, BRASS

THE GRABLER MANUFACTURING COMPANY
*New York · Chicago · CLEVELAND, OHIO · San Francisco · Los Angeles*



EXPAN-HUB SOIL PIPE

When you mention EXPAN-HUB, by name, in your bid Owners and Architects immediately realize that you intend to give them a quality job. For, Expan-Hub is recognized as a real improvement. Yet in spite of its better quality, and exclusive features which make it a better pipe, it costs nothing extra. Try EXPAN-HUB on your next job. Your jobber can supply you.

Manufactured to uniform specifications and sold by
ALABAMA PIPE COMPANY
ANNISTON FOUNDRY CO.
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STRINGER BROS. CO., Inc.
THE WETTER PIPE CO.

For All Size Pipe Hangers

E-Z INSERT

7 IN 1

Use this economical and efficient insert that accommodates seven sizes of rod and pipe—¼, ⅜, ½ and ¾-inch rod, and ¼, ⅜, and ½-inch pipe. Used for all sizes of pipe hangers. It is adjustable, allowing for expansion and alignment. Ball and socket arrangement between insert and hanger. No coupling or turn buckle needed—E-Z button turns in the insert.

*Write for complete information and prices.*

Healy-Ruff Co. 770 Hampden Ave. St. Paul, Minn.

*Also Manufacturers of E-Z Radiator Hangers and E-Z Lavatory Hangers*

Stop this!

Eliminate those unexpected "shots" of hot and cold water in shower baths. Stop the time wasted in trying to get water at the right temperature. Install Powers Mixers. Write for 20-page book.

THE POWERS REGULATOR CO.
2716 Greenview Ave., Chicago
*Offices in 37 Cities*

*With The*
POWERS
SHOWER MIXER

in being present and said she was glad of the opportunity to again meet her friends in the industry.

As a part of the opening formalities, President Drake introduced various manufacturers and other prominent guests of the convention. Among those who responded were Charles R. Crane, 2, vice president of Crane Co., Chicago; Joseph J. Crotty, vice president of Central Foundry Co., New York City; C. W. Wanger, president

**Jere L. Murphy, New York City, chairman of standardization committee**

of Woodward-Wanger Co., Philadelphia, Pa.; Walter Kohler, Jr., of Kohler Co., Kohler, Wis.; Charles B. Nash, vice president, Standard Sanitary Mfg. Co., Pittsburgh, Pa.; A. R. McGonegal, president of the American Society of Sanitary Engineering, Washington, D. C.; Theodore Ahrens, president of American Radiator & Standard Sanitary Corp., New York City; George F. Uber of Philadelphia, a charter member of the National Association of Master Plumbers; John S. Jung, Milwaukee, a director of the Heating and Piping Contractors National Association, and E. H. De Neveu, of the Paris, France, branch of Crane Co. Late, Walter J. Kohler, president of Kohler Co., who had hurried back from Europe to attend the meeting, was introduced.

Each of the above spoke for a few moments, voicing their appreciation at being present and expressing the wish that the convention would be successful.

Mr. De Neveu read a communication from Jean Balas, vice president, Chambre Syndicate des Entrepreneurs de Couverture et Plomberie, of Paris, in which Mr. Balas invited the National Association of Master Plumbers to become a correspondent member of his organization. Upon the recommendation of a committee appointed to consider the matter, consisting of P. W. Donoghue, Jere L. Murphy and H. O. Green, it was voted to accept the invitation of the French group.

### Committee Appointments

President Drake announced the appointment of the following committees to function during the course of the convention:

Auditing Committee: J. Preston Perham, chairman,

Boston, Mass.; Robert H. Pflug-Felder, Philadelphia, Pa.; E. G. Snyder, Rochester, N. Y.

Credentials Committee: William Wolff, chairman, Brooklyn, N. Y.; John J. Shanahan, Norfolk, Va.; William Kuehne, St. Louis, Mo.; Herman E. Ysberg, Saginaw, Mich.; Edward Kanney, LaPorte, Ind.

Resolutions Committee: Charles M. Swinnerton, chairman, Los Angeles, Calif.; August Ebke, Buffalo, N. Y.; Fred R. Bailey, Rockford, Ill.; Sam A. Rice, Oklahoma City, Okla.; W. H. Grabowsky, Canton, Ohio.

Reading Clerk: A. M. Tweet, Green Bay, Wis.

Sergeant-at-Arms: Henry C. Weber, Milwaukee, Wis.

Assistant Sergeants-at-Arms: Henry A. Wegner, Milwaukee, Wis.; Frank G. Colwell, Milwaukee, Wis.

Memorial Committee: E. B. Kleine, chairman, Cincinnati, Ohio; E. D. Hornbrook, Kansas City, Mo.; Frank B. Lasette, Long Island City, N. Y.; David Craig, Boston, Mass.; John E. Dugan, Albany, N. Y.

Upon receiving a report from William Wolff, chairman of the credentials committee, that the necessary quorum was present, President Drake officially called the convention to order for the transaction of business.

Before entering into the business program, he called upon F. C. Kuetemeyer, of Milwaukee, chairman of the convention and exposition committee, who took the opportunity to thank the various committees for their valuable assistance in helping arrange for the convention. He also expressed his thanks to the exhibitors and the wholesalers for their help, and requested the delegates and visitors to inspect the products on display in each booth.

### Hold Memorial Services

Memorial services for those past National presidents who had died during the past year, as well as for other members of the association, were held during the opening session. E. B. Kleine, chairman of the committee, was in charge of the program.

**William Wolff, Brooklyn, N. Y., chairman of credentials committee**

Special memorial resolutions for the past National presidents were drawn-up by the following committees and read before the convention by the chairman of each committee:

L. J. McNamara Resolution Committee: E. D. Hornbrook, chairman, Kansas City, Mo.; Edward Monteath, St. Louis, Mo.; John F. Corrigan, St. Louis, Mo.

*Remember this:*

**FIRST QUALITY . . . . . RUGGED CONSTRUCTION . . . . . *and* RELIABILITY**

***are the features of—***

# KOVEN Products

***Be certain of REAL VALUE!***

***Ask your jobber for***

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***Range Boilers***

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(***Stock Sizes and to Specification***)

*Storage Tank Chart*, giving complete information on: taps, working pressures, etc., for quick ready reference, sent promptly upon request.

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BAD NEWS *for* OLD TOILETS

**With T/N . . . replacement jobs and *extra* toilet rooms are easy**

YOU know it yourself. Prospects who would normally be building, this year are in a "fixing up" frame of mind. But that's good business for you, too! Show them how T/N brings old bathrooms up-to-date.

T/N has done away with the ugly, space-taking wall-tank. Its compact, modern design fits anywhere—under windows, in corners, under stairs. 12″ roughing space is all that's needed. T/N is non-overflowing. Bowl is one-piece, two-fired vitreous china—unmatched for appearance and durability. Mighty quiet flushing, too—a big point in homes where walls are thin.

T/N comes in colors or in white, and the cost is moderate. Installs with two simple connections—saves you time and labor.

Think of the hundreds of home owners in your territory with old, noisy, stained toilets, who would welcome T/N! Write us today for your jobber's name.

ONE PIECE WATER CLOSET SILENT NON-OVERFLOW
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ONE-PIECE WATER CLOSET

D. F. Durkin Resolution Committee: Frank B. Lasette, chairman, Long Island City, N. Y.; Maney J. Feeney, Philadelphia, Pa.; H. L. Righter, Philadelphia, Pa.

John Mitchell Resolution Committee: David Craig, chairman, Boston, Mass.; Frank J. Fee, New York, N. Y.; George F. Uber, Philadelphia, Pa.

Thomas F. Nolan Resolution Committee: John E. Dugan, chairman, Frank F. Schimpf, William H. Branion, all of Albany, N. Y.

The names of the other members who passed away during the year were read by states. Music from an organ lent dignity to the services, which were concluded with a prayer by the Right Rev. Monsgr. B. G. Traudt, vicar general, Milwaukee.

### Speaks on Wisconsin's Sanitation Program

Dr. C. A. Harper of Madison, Wis., state health officer, made an interesting address on "Wisconsin's Sanitation and Health Program." He was introduced by F. L. Penfrase, past National secretary and a member of the sales promotion committee.

Wisconsin is one of the outstanding states in the Union from a health standpoint and Dr. Harper's outline of the methods used to arrive at this high point of efficiency was followed closely by his audience. He said that to begin with Wisconsin has certain natural advantages, but that medical science and plumbing have contributed tremendously to the improvement in conditions.

He explained that the Legislature of 1905 gave the health board control over sewage disposal, and that in 1913 a state license law and plumbing code were passed by the law making body. He said that typhoid fever has been reduced 95 per cent in the state in the past 25 years through sanitary work. Continuing, he pointed out that forty years ago the death rate in the state from diphtheria was 2,000 persons per year, while now it is only 80 per year. Dr. Harper indicated that much still remains to be done in improving sanitary conditions when he remarked that of the 30,000 deaths annually, about 99 per cent of them are preventable.

He said that although in the past twenty years the average length of life has been advanced twelve years, this is due mainly to the conservation of the lives of children. He said that records show little improvement in the conservation of the lives of those more than forty years of age, in spite of improved sanitation.

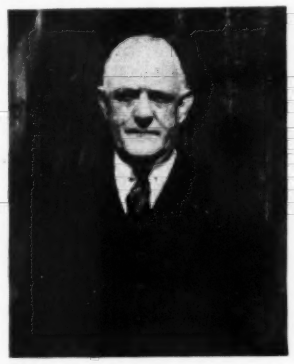
### "The Contribution of Plumbing to Public Health"

Joseph J. Crotty, vice president of Central Foundry Co., New York City, was introduced to the convention by Jere L. Murphy, also of New York City, prior to delivering an interesting and instructive address on "The Contribution of Plumbing to Public Health."

In commencing his address Mr. Crotty remarked that the pursuit of perfection is an endless chase in plumbing as well as in every other industry and phase of life. He said plumbing fixtures must be subject to constant study in order to maintain progress in the industry. The fact that the medical profession is agreed as to the benefits to be derived from frequent bathing was cited by Mr. Crotty as of tremendous importance to the plumbing industry.

Mr. Crotty pointed out that plumbing is not permanent and that it will wear the same as anything else with usage. For that reason he believes there should be com-

pulsory inspection and re-inspection of plumbing systems. He said that the law should prohibit the erection of a new building with modern plumbing in between two old buildings with out-of-date plumbing systems, for obvious reasons.



**Joseph J. Crotty, New York City, who spoke on the "Contribution of Plumbing to Public Health"**

The common theory that rural life is more healthy than life in the city is not always true, according to Mr. Crotty. He said people living in the country suffer many ills as a result of not having proper sanitary equipment. This is difficult to understand, the speaker remarked, when these same people are found to be the owners of automobiles, radios and other luxuries.

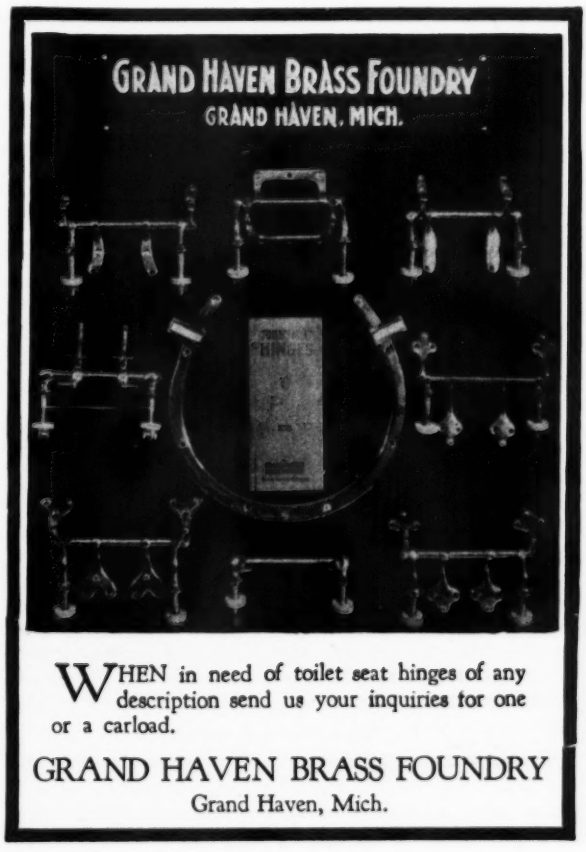
Mr. Crotty remarked that some medical authorities have recognized the value of plumbing. He cited one medical man as having said that the bringing of plumbing to the farmer has reduced typhoid fever by one-sixth. The state commissioner of health of Florida, according to Mr. Crotty, is of the opinion that the bringing of plumbing to the South will eventually eliminate the hook worm.

John Coefield, general president, United Association of Journeymen Plumbers and Steamfitters of the United States and Canada, addressed the convention on the subject of "Co-operation." The speaker stated that the interests of his organization and the master plumbers' were identical—both desiring the same results. He said that with proper co-operation the things suggested as necessary to improve business conditions in the industry could easily be accomplished. Mr. Coefield said it was his experience that where both the masters and journeymen were organized conditions were better than in places where only one of the two was organized.

### Other Speakers

On Wednesday, Mrs. E. D. Hornbrook was accorded the privilege of the platform in order that she might enter a plea that everything possible be done to have the injunction against the national association dissolved.

President Drake, in reply to Mrs. Hornbrook, and for the information of the convention, said that during the past year, the national office has been working on this matter. In explanation, he said: "Unfortunately, the restraining order in effect against this association is one of the earlier injunctions granted under the Sherman Anti-Trust Law and the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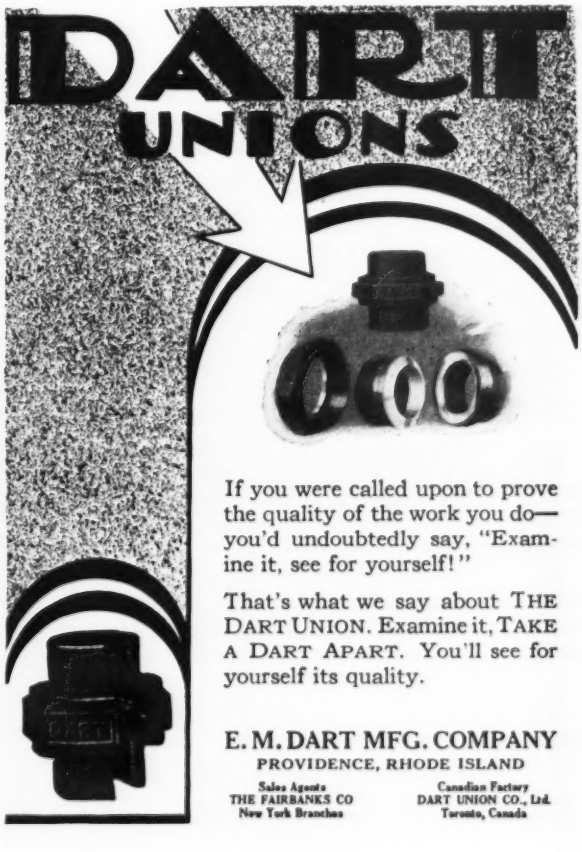


If you were called upon to prove the quality of the work you do—you'd undoubtedly say, "Examine it, see for yourself!"

That's what we say about THE DART UNION. Examine it, TAKE A DART APART. You'll see for yourself its quality.

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Washers that put an end to faucet chattering or rapping. They will not groove or swell; allow full waterway; seat perfectly. Packed in screw top cans containing 100 all of a size or in an assortment of sizes. Ask your jobber for the Acme Handipak.

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*Through your wholesaler*

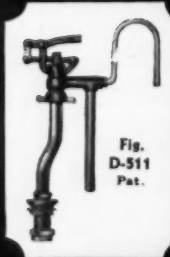

Fig. D-511 Pat.

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PARAGON DIVISION CLEVELAND O.

Clayton Act. I regret to say that from all of the legal advice we have, it really seems to be impossible to do anything with it. The more recent injunctions issued under these two acts have carried a clause that if there should be any change in business methods during the life of the injunction, such restraining orders can be re-opened and modified. Sad to relate, the injunction against this association does not contain such a clause and is referred to specifically as a permanent injunction. I do not think there is any power—at least that is our advice—to change or modify it."

Joseph G. Hildebrand, secretary-manager of the Plumbing and Heating Industries Bureau, reported on its activities. In concluding this report, Mr. Hildebrand said: "The financing of the Bureau for the remainder of the year is assured, but the only hope of continuing all of the services we are rendering at the present time depends upon getting a number of new supporters that we do not have today."

### Past Presidents' Club

Acting as secretary of the Past Presidents' Club, Frank B. Lasette, of New York, introduced the members of that group who were present. In order of seniority. They were: Thomas P. Culloton, of Chicago; E. D. Hornbrook, of Kansas City, Mo.; David Craig, of Boston; Mr. Lasette; John J. Vogelpohl, of Cincinnati, Henry E. Longley, of Wilmington, N. C., and Jere Sheehan, of St. Louis.

During the course of the convention the following were elected to honorary membership: William A. Decker of Grand Rapids, Mich.; David S. Bain of Chicago; Dean C. B. Connelly of Pittsburgh; E. L. Penfrase; John S. Irvine of Detroit, a past president.

### Convention City

During the convention it was obvious that four cities at least would offer an invitation to the national association for the 1932 convention. These cities were: New York, Atlantic City, N. J., Washington, D. C., and New Orleans, La.

On the floor of the convention Fergus M. McLoughlin, of New York, extended that city's invitation, advancing as the backbone of New York City's claim the fact that the association is just entering its fiftieth year and that it was only fitting that this anniversary be celebrated in that city in which the association was founded.

George F. Uber, of Philadelphia, the only charter member in attendance, added the hope that the association would consider this request favorably in recognition of his wish.

Within a few moments Atlantic City and Washington, D. C., representatives took the floor to withdraw the names of their cities in favor of New York. A spirited contest took place in the closing hours of the convention between New York and New Orleans. It became necessary to take a roll call, and the result was a two to one vote in favor of New York as the 1932 convention city.

On the afternoon of June 23, the Plumbing and Heating Industries Bureau, under the auspices of the National Sales Promotion Committee, presented "The New

(Continued on Page 136)

# Questions

ASKED BY READERS AND ANSWERED BY EXPERTS

## A Domestic Hot Water Supply Problem

Editor, DOMESTIC ENGINEERING:—Please give me some help on the following hot water problem.

I have been called upon to take care of a job such as shown in my sketch. A range boiler in the basement supplies hot water to three floors above. The boiler is heated by a small heater in the basement, but this does not furnish enough hot water unless it is rushed.

On the first and second floors are two ranges, either one of which could be used for heating additional hot water. If this will help out, please advise me which of

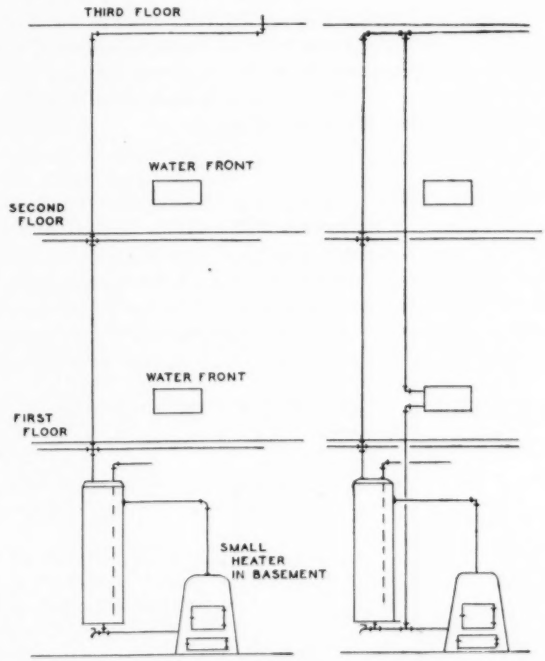



Fig. 1



Fig. 2

the two boilers it would be best to use. Also, please show a sketch of the best way to connect the water front to the boiler. Owing to the fact that the water front will be on a higher level than the boiler, I do not know how to connect it, as I have never had experience with such systems.

New Hampshire. A. R. F.

Correspondent's sketch is shown in Fig. 1.

It is possible to deliver hot water from a range to a range boiler located at a point below the water front, but under the best possible conditions, the results obtained will not be as satisfactory by any means as if the water front and boiler were located in their natural positions—that is, with the range on the same floor as the boiler, or on the floor below it. In other words, it will always be found a difficult matter to make hot water flow downward, when its natural tendency is to flow in just the opposite direction.

Our advice would be to use the lower of the two ranges, and the reason will appear later.

There is but one way to handle this situation that we know of, and that is to carry the flow pipe from the range up as far as possible, before making the connection that will allow the water to circulate back to the boiler. We show the method in Fig. 2.

The reason that the lower range was selected is because the hot water developed by this range would have a greater vertical distance in which to rise than the upper range would allow, giving just so much more opportunity for the hot water to begin to cool.

When the range is above the boiler, the range flow pipe should be carried up as far as possible, but should never be turned immediately downward after leaving the range.

One of the difficulties encountered in such connections as these is the collection of air at the high point where the hot water pipe turns to go back to the boiler. In this case, however, there are fixtures on the third floor which require hot water, and the furnishing of hot water is the thing that will allow the air to be discharged that might otherwise produce trouble. If there were no fixtures on the third floor, and the flow pipe was run up to that point, an air cock would have to be used at the high point.

◆

## About the Area of the Bore of Pipe

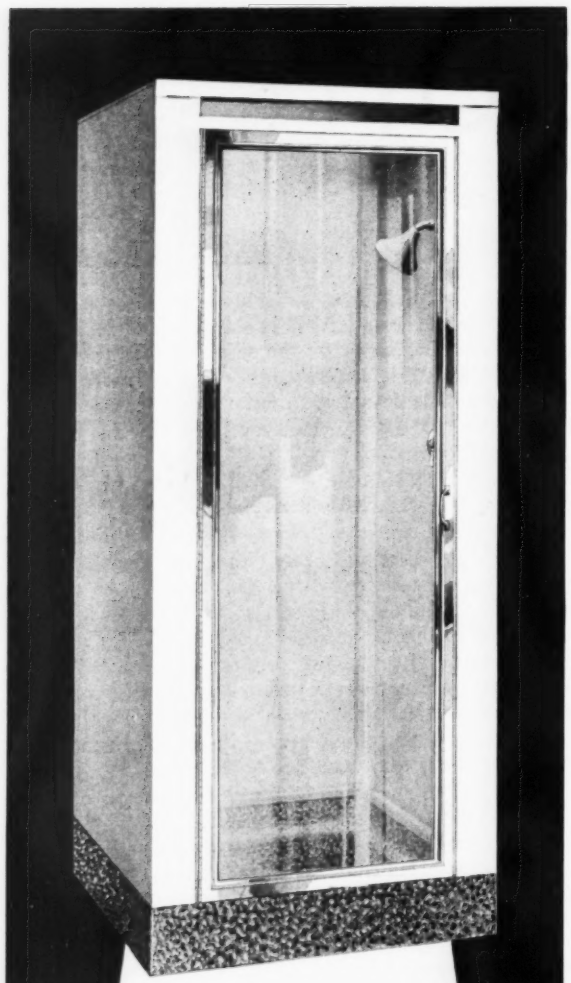
Editor, DOMESTIC ENGINEERING:—There is an argument which has arisen in our shop, which we are referring to you, as follows:

Which will empty a tank of given size more quickly, a 2½-in. line of pipe, or a 2-in. and ½-in. line combined? I say they will drain the same. Am I right?

Indianapolis, Ind. G. B.

The question involved here is the area of bore of these pipes. If the area of a 2-in. pipe plus the area of a ½-in. pipe is greater than the area of the 2½-in. pipe, then the two first-named pipes will drain the tank more quickly than the 2½-in. pipe.

However, the area of the 2½-in. pipe is 4.91 sq. in., while the sum of the areas of the other two pipes is 3.34 sq. in. The fact that the 2½-in. pipe has the larger area, at once enables us to say that it will drain the tank more quickly. Moreover, the frictional loss in the one large pipe will be less than that in the two smaller pipes.



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## An Unsatisfactory Range Boiler Installation

Editor, DOMESTIC ENGINEERING:—In Fig. 1 I show a sketch of a range boiler installation that has not given satisfaction. The owner says that he has never obtained hot water to amount to anything.

We have always believed in using vertical boilers lo-

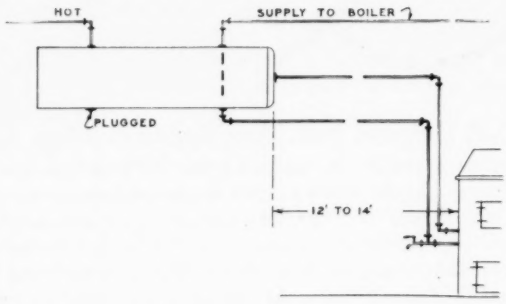


**Fig. 1**

cated as close to the heating boiler as possible. In this case the boiler is 12 to 14 ft. from the heating boiler.

A new heating boiler has been installed, but the boiler, which is a large one, could not be hung close to the heating boiler because of the pipes. As the owner did not want to buy a new range boiler, we used the old horizontal one as a vertical tank, and connected it as shown in Fig. 2. What are your comments?

Illinois. E. F. J.

Our first comment is that Fig. 2 shows a very clever substitution of a horizontal boiler for a vertical boiler. The method of supplying the boiler with cold water is particularly novel. Instead of using a boiler tube to carry the cold water down to the bottom of the boiler, the same result is obtained in the clever way shown, which leaves the only top opening free for the flow pipe connection.

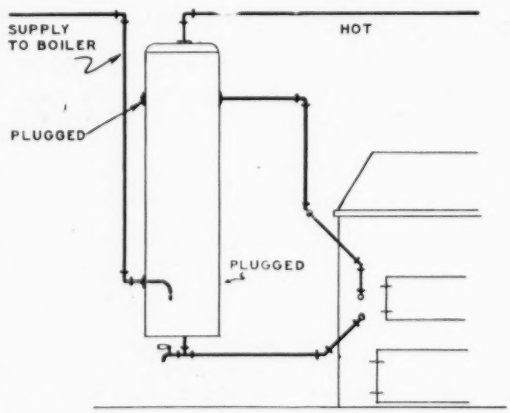


**Fig. 2**

E. F. J. does not state what results the new method gives, but we see no reason why they should not be excellent.

There is every reason to look for much better results from the new layout than from the old one.

Here are some of the features that probably worked against getting good results from the layout shown in Fig. 1. In the first place, the range boiler and heating

boiler are far apart, but this should not necessarily produce poor results. It is stated that the horizontal boiler was a large one, and it is possible that the heating coil was too small or poorly located in the fire pot for efficient heating. The feature that seems particularly bad to us is the fact that, whereas the flow pipe from the heating coil enters the center of the boiler, it should enter high up on the boiler. The center of the boiler apparently is not many inches from the point where the cold water discharges into the boiler. This, in our opinion, is a very bad condition, as it throws cold water into the hot water every time water is drawn at a hot water faucet.

Undoubtedly all of these wrong conditions may have contributed to the poor results obtained, and there may be other bad conditions that we do not know about.

◆

## More About Figuring and Estimating Labor and Material

Editor, DOMESTIC ENGINEERING:—In your magazine of May 16, 1931, on page 58 at the foot of the first column you will find these words:

"The manufacturer figured the equipment to cost $5,500.00 while the contractor estimated his labor at $600. Based on this labor and material cost the contractor added his overhead of 15% and a profit of 10% making a total of $7,716.

"Thus,

| | |
|---|---|
| $5,500 | Material |
| 600 | Labor |
| 6,100 | |
| 915 | Overhead at 15 per cent |
| 7,015 | |
| 701 | Profit at 10 per cent |
| $7,716 | Bid" |

Then when the contractor finished the job and paid off the bills and expenses he found the following result:

| | |
|---|---|
| $7,716 | Cash |
| 5,500 | to Supply Store |
| 2,216 | Still Cash |
| 600 | to Labor |
| 1,616 | Still Cash |
| 1,157 | 15 per cent of the Sale |
| $ 459 | for the contractor instead of $701 or a donation to the owner of $242. |

The actual per cent of profit to the contractor was about 5.9 per cent instead of the 10 per cent planned.

Now if the contractor had used the correct method he would have done as follows:

| | |
|---|---|
| 10 | per cent for profit |
| 15 | per cent for overhead |
| 25 | per cent total for these items. There would be 75 per cent of the sale to spend for material and labor. |

Then if the material and labor come to $6,100 and this figure is divided by 75 the answer will be $8,133. $8,133 less $6,100 is $2,033. Less 15 per cent of $8,133 or


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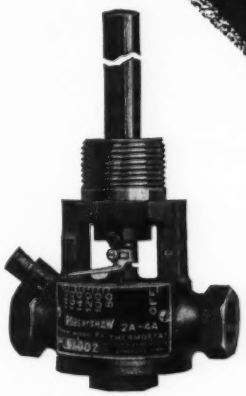

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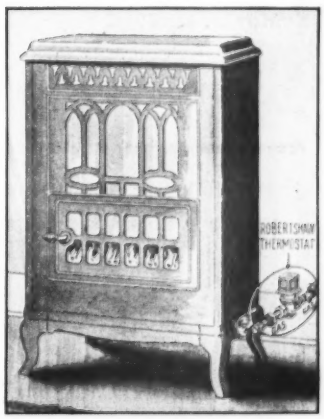

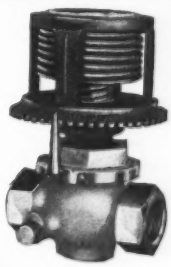

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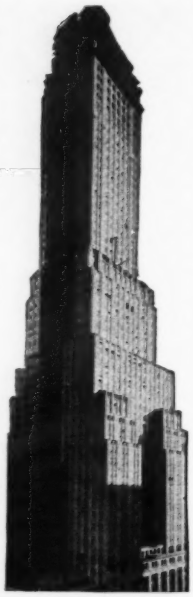

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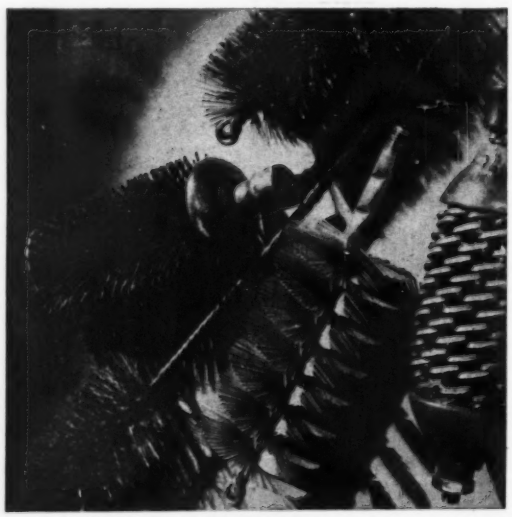

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In this case we will hand down what is known as a Scotch verdict.

Coffeyville, Kans. O. M. Cheeseman.

## Questions Answered and Discussed by Readers

### How the Question Was Answered

The following question was asked in the issue of May 30, and the accompanying answer is by a reader:

*What is needed to make the best possible house connection to the street sewer?*

### How Would You Answer This Question?

*If the elevation of the sewer opening is 4 ft. 3 in. below the house drain, what is the pitch or fall per foot, if the house sewer is 110 ft. long? Expressed in terms of grade, what does it amount to?*

Answers based upon your experience, and suitable, will be paid for and published in the August 8 issue.

*1*

THE pipe should rest on solid earth in the trench and not on back fill. (1) If two pipes are to be laid at different depths in the same trench, they should not be one above the other, but the trench should be benched about 18 in. to receive the upper of the two pipes. (2) The sewer should be laid on a straight grade from beginning to end if possible. Any changes in grade or line that are absolutely necessary should be made with curves, Y's or other standard fittings to make the sewer easy to clean. (3) Grooves should be cut in the trench at the proper places to receive the hubs of the pipes and the back fill should be firmly tamped against the sides of the pipe. (4) If there is any chance of roots finding their way to the sewer it is safer to use cast iron pipe with calked and leaded joints. (5) After a joint is made, care must be taken to see that neither the joint material nor anything else projects into the pipe. (6) If the pipe must be laid on a yielding trench bottom, it may rest on a 2-in. plank laid lengthwise of the trench with the plank breaking joints with the pipe. (7) Any ends left temporarily unconnected should be securely plugged. (8) Where the pipe passes under or through the cellar wall, it should be heavy cast iron soil pipe and be provided with a collar of slightly larger size with room at the top of the pipe to allow for settlement of the wall. (9) A trap and clean-out should be placed just inside the cellar. (10) Don't use a pipe smaller than 4 in.

## Refrigeration Lines in Apartment Buildings, Tenement Houses, Etc.

(Continued from Page 45)

Fig. 8 shows connections in which both the refrigerators and the soda fountain bar have indirect connections. This also is a common and excellent method of handling the soda bar, each sink and drain having its own trap.

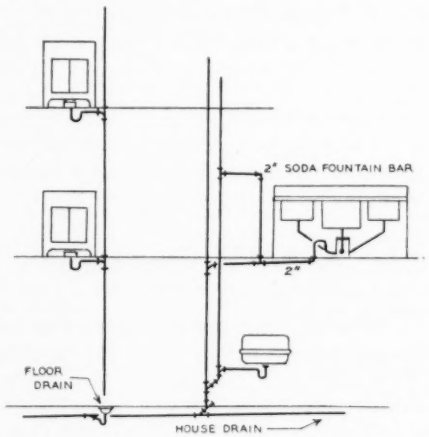


Fig. 10

On the other hand, Fig. 9 shows the refrigerators, the gutter waste and waste from electrical apparatus having indirect waste connections, and the bar sinks and tumbler washer with direct waste connections.

Fig. 10 shows a soda fountain bar with a direct waste connection, but with a method of venting that is not particularly desirable. The proper plan would be to give the trap the regular continuous vent. The code allusion

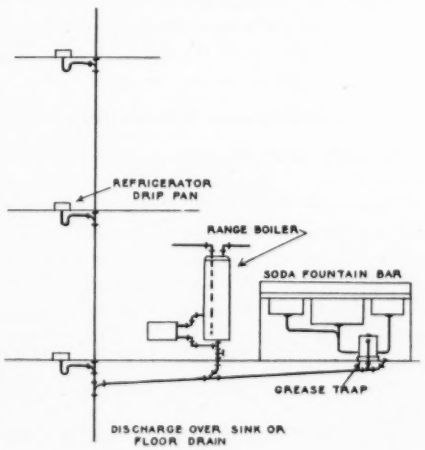


Fig. 11

to this layout calls the trap outlet connection a "Boston dip," and the trap a "tea-kettle trap," both being unusual terms to us.

Our final illustration, Fig. 11, shows refrigerator and soda bar connections indirect, with the drainage from the range boiler connected into the waste from the soda bar.

The range boiler sediment connection is open to criti-

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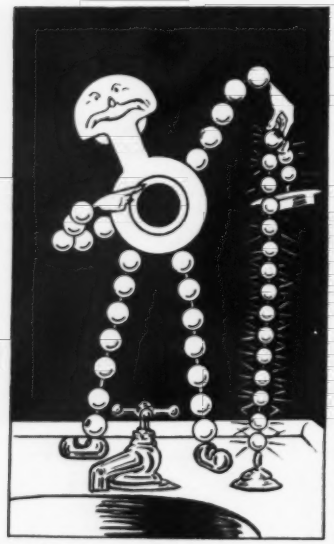

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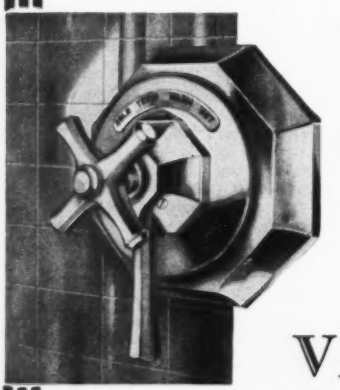

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cism. It actually represents one of the cross connections now so completely condemned, in which a line of waste and the water supply system are connected together. Often, as probably in this case, while contamination of the water supply might never result, the opportunity is there, and no chances whatever should be taken. Therefore, we would look upon this drainage connection from the range boiler, even if it is connected into an indirect waste, as a wrong thing. We cannot exercise too great care in the protection of our food and our drinking water against all possibilities of contamination.

Fig. 11 shows a grease trap in connection with the soda bar. This is not a usual practice, but we believe it a good plan.

Sizes of wastes for refrigerators as in general use are as follows: For a single refrigerator, not less than 1¼ in.; for 2 or 3 refrigerators, 1½ in.; for 4 to 12 refrigerators, 2 in.

## N. A. M. P. Convention

(Continued from Page 130)

Tempo," a three-act drama about the plumbing industry. The following afternoon these two organizations presented "First Class," a dramatization of the first meeting of a Consumer Selling School. Both plays were witnessed by audiences that filled Plankinton Hall almost to capacity. C. W. Wanger, president of Woodward-Wanger Co., Philadelphia, and chairman of the committee, was master of ceremonies.

The role of instructor in "First Class" was taken by E. L. Flentje, formerly secretary-manager of the Bureau. N. S. Finney, of the Bureau staff, was the association secretary. Prominent men in the plumbing industry who participated as members of the class were: H. T. Strenger and Lester V. Anderson, both of Lake Forest, Ill.; Maney J. Feeney, George M. Hicks, Robert H. Pflug-Felder and Harry L. Stilwell all of Philadelphia; Edward B. Kleine, Cincinnati; Michael Mele and T. W. Merryman, both of Chicago; and Howard Moran, Highland Park, Ill.

### The Convention Committees

The Milwaukee and Wisconsin associations, acting under the direction of the National Convention and Exposition Committee, had made complete plans for the convention, which made possible the smooth functioning of the business sessions and the entertainment features. Milwaukee contractors who were members of this committee, in addition to National President George H. Drake and his assistant, R. H. Mattison, were F. C. Kuetemeyer, chairman, Jacob Schuh, vice chairman, Lewis R. Friend, state president, Charles Pelunek and Joseph Wittig.

Following are the other committees which contributed much to the success of the convention:

Sales Promotion Committee

C. W. Wanger, chairman, Philadelphia, Pa.; Russell G. Creviston, Chicago, Ill.; Albert B. Dibble, New Haven, Conn.; E. L. Flentje, Chicago, Ill.; W. K. Glen, Chicago, Ill.; Joseph G. Hildebrand, Chicago, Ill.; Walter J. Kohler, Jr., Kohler, Wis.; Charles B. Nash, Pittsburgh, Pa.; E. L. Penfrase, Cleveland, Ohio; Charles M. Swinnerton, Los Angeles, Calif.; John J. Vogelpohl, Cincinnati, Ohio.

Milwaukee Sales Promotion Committee

Peter Vogt, chairman, Arthur F. Boettcher, E. H. Doubek, Joseph P. Hahn, Peter J. King, George H. Soergel, Edward Thill, E. M. Faul, representing Crane Co., G. E. Ryan, repre-

senting Kohler Co., M. V. Osterhout, representing Standard Sanitary Mfg. Co., all of Milwaukee.

Exhibits Committee

David Stern, chairman, John H. Bechtel, Jacob Belz, George C. Block, Norbert L. Dittmer, R. O. Dreyer, Albert E. Haack, Alfred Heiden, Lester S. Horton, Jacob Mergenthaler, Jr., F. M. Schwantes, Herman B. Zien, all of Milwaukee.

Hotel Committee

Louis R. Schmaus, chairman, Emil F. Henoch, Ray Robertson, Otto A. Waskow, all of Milwaukee.

Badge Committee

Erwin B. Knauer, chairman, Joseph Brah, Walter Tesch, all of Milwaukee.

Press and Publicity Committee

Edward F. Trebs, chairman, H. H. Borkenhagen, Paul Buckethal, William E. Gerstenberger, August J. Leeser, Frank Loppnow, Edmund R. Spence, Harold Zentner, all of Milwaukee.

Reception Committee

Walter W. Dusold, chairman, Anthony P. Backes, Charles H. Blackford, John B. Bobber, Arthur F. Boettcher, H. H. Borkenhagen, Joseph Brah, George J. Bronenkant, Frank G. Colwell, Joseph Freudenfeld, Lewis R. Friend, Paul J. Grunau, Joseph P. Hahn, Emil F. Henoch, Edward C. Hoffmann, Lester S. Horton, Albert Kenngott, Erwin B. Knauer, F. C. Kuetemeyer, John R. Luebenow, Arthur J. Maag, Charles Pelunek, Charles W. Priegel, Joseph J. Reddy, Louis R. Schmaus, William H. Schoenrock, Jacob Schuh, Albert A. Smukowski, George H. Soergel, George J. Stoehr, Edward Thill, George Vogel, Peter Vogt, Otto A. Waskow, Rudolph Wenninger, Fred C. Westfahl, Frank L. Wittig, Joseph Wittig, George C. Wussow, Herman B. Zien, all of Milwaukee.

Registration Committee

Joseph Brah, chairman, Charles H. Blackford, Charles J. Heffling, Jr., Erwin B. Knauer, George Vogel, all of Milwaukee.

Women's Auxiliary Joint Committee

George H. Soergel, chairman, Mrs. George H. Soergel, Mr. and Mrs. Walter W. Dusold, Mr. and Mrs. F. C. Kuetemeyer, Mr. and Mrs. Charles W. Priegel, Mr. and Mrs. Peter Vogt, Mr. and Mrs. Otto A. Waskow, Mr. and Mrs. Fred C. Westfahl, all of Milwaukee.

Music and Entertainment Committee

A. A. Hoffmann, chairman, George J. Bronenkant, Alfred Heiden, Clarence Savadil, Henry A. Wegner, all of Milwaukee.

County Fair Night Committee

Henry C. Weber, chairman, George J. Bronenkant, Alfred Heiden, A. A. Hoffmann, Clarence Savadil, Henry A. Wegner, all of Milwaukee.

Heidelberg Night Committee

Walter Tesch, chairman, John H. Bechtel, George C. Block, George J. Bronenkant, Paul Buckethal, Stanley Dereszynski, Byron W. Graper, Albert E. Haak, Paul H. Kurth Edward Loppnow, Frank Loppnow, John R. Luebenow, Joseph J. Reddy, Robert Schmidt, George J. Stoehr, George Vogel, Henry A. Wegner, all of Milwaukee.

Automobile and Transportation Committee

Arthur F. Boettcher, chairman, Frank G. Colwell, Byron Graper, Rudolph H. Meyer, all of Milwaukee.

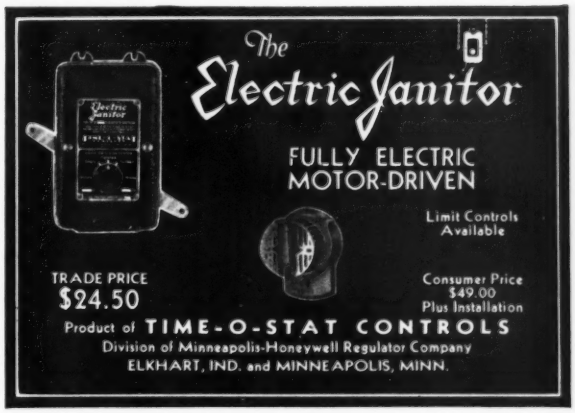
## Window Display Contest

During the convention, 62 of the Milwaukee plumbing shops entered into a window display contest, the prizes for which were awarded on the last day of the convention. The judges for the window display contest were: P. R. Berryman, W. K. Glen, and C. R. Crane, of Crane Company; Walter J. Kohler, Jr., of the Kohler Company; Charles B. Nash, of the American Radiator & Standard Sanitary Corporation, and C. W. Wanger, Woodward-Wanger Co.

The prize-winners were as follows:

First prize, $50.00, John Savadil.
Second prize, $35.00, John Lubenow.
Third prize, $25.00, A. J. Maag.
Fourth prize, $20.00, Wm. Zentner & Son.
Fifth prize, $15.00, A. F. Boettcher.
Sixth prize, $10.00, H. Bartels & Son.
Seventh prize, $10.00, Dobner & Randall, Inc.
Eighth prize, $5.00, Wm. Holzhaeuser.
Ninth prize, $5.00, Louis Schmitt.

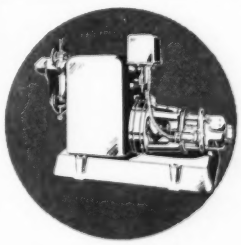
(To be continued)

**As you gain new business and the confidence of your customers by installing welded pipe systems, permanently leak-free, you will develop increasing confidence in Airco Oxygen if you give it a trial.**

**Its uniform quality and availability in any quantity should interest you if you are welding. If you are not, we shall be glad to explain how to gain customers, more business and even cut your overhead thru its use.**

**Air Reduction Sales Co.**
**Lincoln Bldg., E. 42nd St., New York City**



*Jennings Pumps*

JENNINGS CONDENSATION PUMP. Furnished in capacities of 4 to 200 g. p. m. For serving up to 150,000 sq. ft. of radiation. Write for Bulletin 99. The Nash Engineering Co., 41 Wilson Road, So. Norwalk, Conn.

**"X" Boiler Liquid**

INSURES your profits on new installations. When the job is finished, a can of "X" is the best assurance for prompt payment of your bill. Repairs sand holes, closes poor threads, split nipples and tightens all loose connections when you turn on the water. Order a carton from your wholesaler today.

**"X" LABORATORIES**
**25 West 45th St., New York, N. Y.**

# Woman's Page

*To the Members of The Women's Auxiliary:*

*I wish to express through* DOMESTIC ENGINEERING *my gratitude for the high honor you have conferred upon me in making me the head officer of the Women's Auxiliary to the National Association of Master Plumbers. I assure you I will serve you to the best of my ability.*

*I thank all those who at the Convention made my taking office such a pleasure, and for all the good wishes expressed. I thank the Women of Milwaukee for all they did to make our visit a happy one, and I shall long remember the friends I made there.*

*And now, I wish to express the pleasure, I have had in working with Mrs. McAndrew and the other officers of the past two years.*

*As there is no Scholarship to work for this year, let us bend our efforts to building up our organization, each state doing its best, and when we meet next June, may we find we have accomplished something to be proud of.*

*The National office is now open at 214 Spring street, West Roxbury, Massachusetts.*

*The Board of Directors will be announced later.*

*(Mrs. J. Preston) Sarah B. Perham,*
*President.*

**Mrs. J. Preston Perham, Boston, Mass., elected National auxiliary president**

**Mrs. William Kuehne, St. Louis, elected first vice president of the National auxiliary**

## Mrs. J. P. Perham Is Elected President of National Auxiliary

THE 13th annual convention of the Women's Auxiliary to the National Association of Master Plumbers attracted a large and interested group of members. It took place on June 23, 24 and 25 at Milwaukee, Wis. The meeting, different members pointed out, reflected the good work done by Mrs. W. E. McAndrew, national president, during her term of office. The completeness of the plans worked out by the Milwaukee and Wisconsin organizations in preparing the convention and entertainment programs added to the interest and pleasure of the visitors.

Mrs. McAndrew reported on the many activities carried on during the past year. One of the signficant tasks carried to completion was the Past Presidents' Scholarship. This was over-subscribed and the balance will be held in

the form of bonds for later use. There was some discussion on the subject of a proposed student loan fund for girls, but no action will be taken this year.

Mrs. J. Preston Perham, of Boston, Mass., was elected to succeed Mrs. W. E. McAndrew, Tampa, Fla., as president of the National Women's Auxiliary. Mrs. William Kuehne, St. Louis, was elected first vice president; Mrs.

**Mrs. W. E. McAndrew, Tampa, Fla., retiring president of the National auxiliary**

Robert Liss, Chicago, second vice president; Mrs. F. C. Kuetemeyer, Milwaukee, third vice president; Mrs. Robert Roos, St. Louis, recording secretary and Mrs. Oscar G. Johnson, Minneapolis, treasurer. Mrs. H. L. Rose, Cambridge, Mass. was appointed corresponding secretary and Mrs. Rose Friend, Milwaukee was re-elected historian.

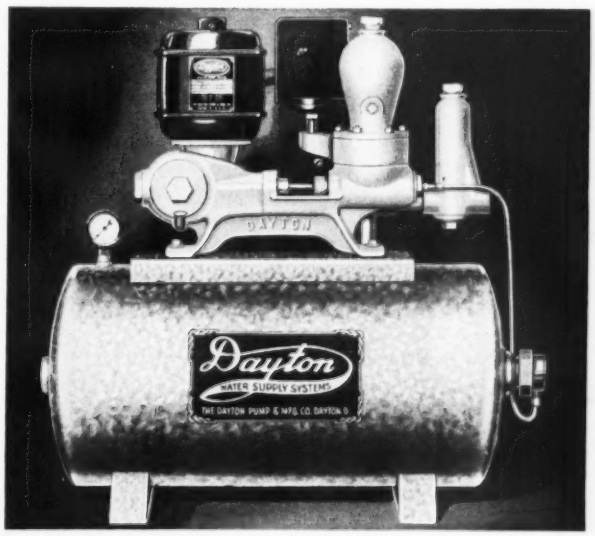
The newly elected president of the master plumbers association, P. W. Donoghue, gave a short talk on the National Association of Master Plumbers. Miss Mary Ann Abel told of "New Days—New Ways." Talks were also made by Frank Lasette, R. V. Sawhill of "Domestic Engineering," C. B. Nash and Miss Esther Keller.

Mrs. E. V. Hornbrook, so well known as the "Mother of the Auxiliary" was also present, indicating her continued interest by speaking at both the master plumbers' meeting and the Women's auxiliary meeting.

In between business sessions, the many members attending took advantage of the entertainment privileges offered them by attending luncheons, a musicale, and a tour of the city, to say nothing of the "Get Aquainted" party and the "County Fair Night."

Mrs. F. C. Kuetemeyer of Milwaukee was chairman of the convention committee on arrangements, with Mrs. Otto A. Waskow and Mrs. Charles Pelunek, both of Milwaukee, vice chairman.

Mrs. Walter W. Dusold, Milwaukee, served in the capacity of chairman of the entertainment committee, while Mrs. Louis R. Schmaus, also of Milwaukee, was vice chairman. The social reception committee was headed by Mrs. Jacob Schuh, chairman, with Mrs. Emil F. Henoch, vice




# The New Dayton Direct Drive System

MAKE it a point to investigate this newest DAYTON Water System for sound engineering principles and for mechanical excellence. You will find in it the fresh sales opportunity you have been needing to make more money this summer.

Here are its advantages—every one a strong selling point.

1. Compact in design and assembly.
2. Driving mechanism completely enclosed.
3. Belt and pulley eliminated—no external moving parts.
4. Superior oiling system—with large reservoir, tightly sealed.
5. Completely equipped with pressure switch, relief valve, fresh water valve, pressure gauge and air volume control.
6. Capacity 250 gallons per hour—mounted on either a 12- or 30-gallon galvanized tank.

The coupon is for your convenience. We'll reply promptly.

THE DAYTON PUMP & MFG. COMPANY
Dayton, Ohio, U. S. A.

The Dayton Pump & Mfg. Company, Dayton, Ohio. Dept. DE
Gentlemen: Your new Direct-Drive System looks interesting. I want to know more about it.
Name .....
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City ..... State .....

Dayton WATER Systems

**Members of the Women's Auxiliary to the Master Plumbers' Association of Green Bay, Wis., on a recent visit to the plant of Kohler Co., at Kohler, Wis. The ladies are shown on the spacious lawn in front of the American Club, where a luncheon was served in their honor**

chairman. The hotel reception committee chairman was Mrs. Charles J. Heffling, Jr., and Mrs. George J. Stoehr was vice chairman. Mrs. Peter Vogt was chairman of the registration committee, Mrs. Henry C. Weber acting as vice chairman. The publicity committee chairman was Mrs. O. H. Dittmer. Mrs. John Feiner, Racine, president of the Wisconsin State Women's Auxiliary, as well as her associated officers, Mrs. Joseph Brah, Milwaukee, Mrs. Albert Brunk, Racine, and Mrs. Jacob Schuh, Milwaukee, were active, as were also all of the members of the Milwaukee Auxiliary, headed by Mrs. Fred C. Westfahl, president, and the other officers, Mrs. William Schoenrock, Mrs. Walter W. Dusold, Mrs. Joseph P. Hahn, Mrs. Peter Vogt, Mrs. Charles H. Blackford, Mrs. R. G. Wenzel, Mrs. Louis R. Schmaus and Mrs. Rose Friend.

The above mentioned women were largely responsible for the successful convention arrangements.

## Green Bay, Wis., Auxiliary Visits Kohler

Twenty-one members of the Women's Auxiliary of the Green Bay, Wis., Master Plumbers' Association visited the Village of Kohler, Wis., May 25 as guests of the Kohler Co.

Miss Marie C. Kohler, sister of Walter J. Kohler, president of the company, spoke at a noon luncheon for the visitors in the American club. Miss Kohler, members of the Kohler Woman's Club and girls of the Kohler organization served as hostesses to the group throughout the day.

The morning program included inspection of Arthur Covey's mural paintings which adorn the walls in the entrance hall of the Kohler Co. general office, a trip through the Kohler factory and a visit at the showroom.

Following the luncheon, members of the visiting auxiliary were conducted on a motor tour of Kohler village,


# NOTICE

## Absolutely PUBLIC AUCTION Sale

heretofore the property of

*The Kellogg-Mackay Company*

Wholesale jobbers of plumbing and heating supplies

This is a sale of inventory stock estimated at approximately

**$229,000.00**

All in original boxes, cartons and crates—consisting of enamel and earthenware, plumbing, brass goods, fittings, boilers, heaters, radiation, etc. This is GRADE "A" merchandise manufactured by some of the most prominent manufacturers in the U. S.

***Sale takes place on July 21, 22, 23, 1931 at 10:30 A. M. (Central Standard Time) at***

**1351 W. 37th Place, Chicago, Ill.**

Material will be sold in lots and parcels only. Write for descriptive catalogs pertaining to this sale.

JOHN TAYLOR BOOZ
*Counsel for owners*

*This sale under the supervision of* L. J. GORDON CO.
First National Bank Building, Chicago, Illinois

including stops at the Kohler demonstration home and at Riverbend, home of Mr. and Mrs. Walter J. Kohler.

Mrs. W. J. Femal, wife of the president of the Green Bay Master Plumbers' Association, was in charge of arrangements for the auxiliary's outing.

## Kansas City Women Are Active

The June meeting of the Kansas City, Mo., Women's Auxiliary was held at the Crestwood Tea Room on the eleventh of the month. Mrs. E. F. Spaeth, president, opened the meeting, after which the members were escorted to Forest Hill Abbey. This is the second of a series of educational trips made by the auxiliary.

The members of the auxiliary are quite enthused over the plans for a banquet to be given soon for all members and friends of the auxiliary and the master plumbers' association.

A card party was given on June 8 at the country home of Mr. and Mrs. William J. Hebenstreit. About 40 guests were present and after a lovely afternoon of bridge, refreshments were served.

## Rock Island and Moline Women Meet

The Women's Auxiliary of Rock Island and Moline, Ill., held its June meeting at the Washington Inn, in Rock Island, on June 8, with Miss Mildred Lamp of Rock Island hostess. There were eight members present. Later in the afternoon luncheon was served in a private dining room.

There will be no meetings until September, at which time Mrs. E. L. Householder of Rock Island will entertain, the place and date to be announced later. Members of the auxiliary are looking forward to the fifth annual picnic of the Tri City Plumbing and Heating Trade Development League, which is to be held the latter part of July or the first part of August.

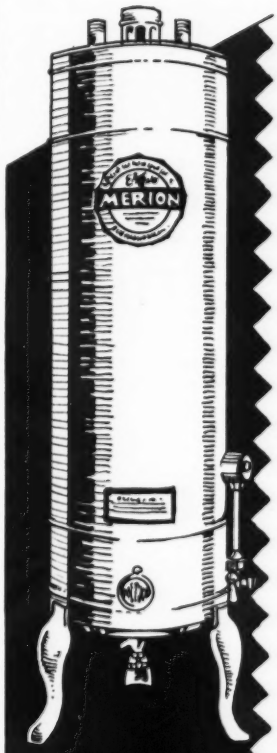
## Portland Auxiliary Elects Officers

The Portland, Ore., Women's Auxiliary has been quite active during recent months. Mrs. T. J. Spreadborough entertained 12 members at her home, at which time an election of officers was held, resulting as follows: President, Mrs. George Kendall; vice president, Mrs. Earl Parker; secretary, Mrs. W. T. Finnigan; treasurer, Mrs. T. J. Rowe. Bridge was played and later luncheon was served. Hostesses for the meeting were Mrs. Spreadborough, Mrs. Edward Murphy and Mrs. George Kendall.

Mrs. C. J. Burns entertained the ladies at her home, with thirteen in attendance. After the regular business was finished, the women sewed. Luncheon was served. Mrs. Burns, Mrs. Rex Walker and Mrs. C. C. McCoy were hostesses.

**Left to right: Mrs. R. T. Lenby and Miss Mary McKenna, both of Boston; Mrs. J. Francis Ford and Mrs. A. G. Kerr, Newton. Photo taken at annual convention of Massachusetts State Women's Auxiliary, held recently at Boston**


HOT WATER




MANY good hot water heating supply system sales are going begging because the proper type equipment has never been offered to the buyers. Maybe this is true in your territory. Why not make a thorough investigation of The Merion Water Heater and what it will do for you? It won't take long to see that The Merion will be the fastest seller in your line. And Merion profits are clean.

*Write us about the FAST SELLING MERION TODAY! We are sure you will profit by it.*

**JOHN WOOD MFG. CO.**
**CONSHOHOCKEN, PA.**

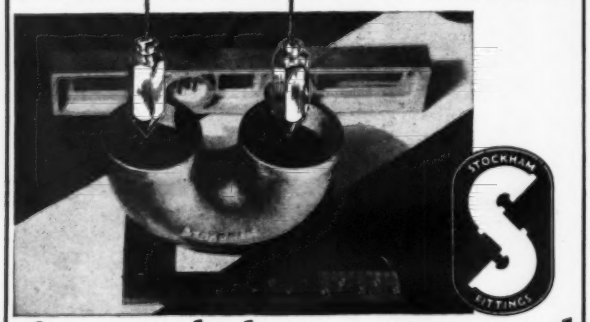
MERION
WATER · HEATERS

## The Truly Modern Vacuum Valve

The Marsh System Unit Air and Vacuum Valve is specially designed to bring the advantages of vacuum heat to homes, apartments and small office buildings in which it is desirable to install one-pipe heating systems. Adaptable for new buildings or for remodeling, it will repay its slight cost many times in reduced fuel bills.

JAS. P. MARSH & CO.
(Division of Commercial Instrument Corp.)
Home Office: 2079 Southport Ave. CHICAGO
*Sales Offices in Principal Cities*
In Canada: The James Morrison Brass Mfg. Co., Ltd., Toronto

## STOCKHAM FITTINGS




*for straight lines and strength*

## "EBCO" DISHWASHING SINK

*. . . with built-in dish pan*

"A New Selling Slant" is the title of a booklet you may have for the asking. A new way to turn quick plumbing profits. There is no obligation—it is FREE.

The D. A. EBINGER SANITARY MANUFACTURING CO.
411 West Town St. Columbus, O.

*"The Difference Between An Old House and A New One Is Plumbing"*

An
## American
Fine Thread Fitting

And when we say "fine thread", we mean that in every sense of the word. Whether it's a small fitting like this or brass goods for an entire structure, the same standards prevail.

AMERICAN SANITARY MFG. CO.
Abingdon, Illinois


# New Trade Literature

**Kohler Co. Issues Folders on Boilers and Radiators**

Kohler Co. of Kohler, Wis., has just issued two folders illustrating and describing its 16-inch, 18-inch and 26-inch series of steam and hot water house heating boilers, which will burn hard and soft coal, coke or oil. These folders also give the ratings and specifications for these boilers as well as illustrations and descriptions of the company's radiators.

**Catalog of Lubricated Plug Valves**

Walworth Company of Boston, Mass., has issued a 20-page catalog, 6x8½ in., of its lubricated plug valves for water, gas, oil, air, gasoline, tar and other liquids and gases. This catalog also shows illustrations of several typical installations of these valves.

**Bulletin on Shower-Heads and Showers**

Speakman Company of Wilmington, Del., has issued a 16-page bulletin on showers and shower-heads with much valuable information about these fixtures. The bulletin is copiously illustrated not only with halftones of the company's various types of showers and shower-heads, but it also contains numerous roughing-in charts. The bulletin stresses the point that the selection of the shower-head itself is equally as important as the type of shower to be installed.

**Pipe Covering Protectors**

The Royal Protector Co. of Boston, Mass., has published a four-page folder, 9½ x 11½ in., illustrating and describing its pipe covering protectors, being heavy gauge steel caps for the ends of pipe covering at floors, walls, ceilings, flanges, run-out fittings, radiator drops, unions and valves.

**A Double-Acting Working Barrel**

The F. E. Myers & Bro. Co. of Ashland, Ohio, has issued a four-page folder illustrating and describing in detail a new double-acting working barrel with quick-closing spring cushion pop-spool valves.

**A New Range Boiler Chart**

L. O. Koven & Bro., Inc., Jersey City, N. J., have issued a new range boiler chart showing sizes and capacities of this concern's vertical and horizontal range boilers.

**Catalog of Modern Equipment Corp.**

Modern Equipment Corp. of Chicago, Ill., has issued its catalog C, illustrating and describing the seat-action closets, frost-proof closets, octopus combination closets, flush valves and other plumbing goods, formerly manufactured by Thomas Kelly & Bro., also of Chicago.

**Catalog of Cold Diffusing Systems**

The Brunswick-Kroeschell Co. division of the Carrier Corporation, New Brunswick, N. J., has just issued a sixteen-page catalog of its cold diffusing systems, with positive air circulation and temperature uniformity. These diffusers have been installed in plants for the storage of butter, candy and cheese, eggs, films, fish, fruit, fur, lard, meat, milk, poultry and vegetables. They are also used in cooling for industrial processing of materials.

**Republic Steel Corporation Booklets**

Republic Steel Corporation of Youngstown, Ohio, has recently issued three booklets containing much valuable information, as follows:

"Sheet Iron—A Primer," a 64-page illustrated book, which tells in non-technical language the story of iron working and sheet rolling. This book is now in its fourth edition and it is used as a textbook in 1,200 schools and universities in this country and Canada.

"Toncan Iron Pipe" is also a 64-page book illustrating

**Top picture, the Berkeley-Albany delegation. Left to right: Arthur Johnson, J. H. Jevons, B. T. Schullerts, Charles E. Sperry and Leonard A. Bryant. Bottom picture: E. B. Brooks of Indio, president of Orange Belt association; B. J. Lewis of Santa Monica Bay association; P. W. Coffey, secretary, Long Beach association; L. D. Bliss, Spokane, Wash. Photos taken at the annual convention of the California State Association of Merchant Plumbers, held recently at San Diego**

many installations of copper molybdenum iron alloy pipe.

"Agathon Alloy Steels" is the title of the third booklet, which consists of 132 pages and contains much information about alloy steels, with instruction for their heat treatment in chart form.

### Folder on Combination Refrigerator-Sink

J. F. Weinheimer, Buffalo, N. Y., has just distributed an attractive four-page folder containing descriptive material of the combination refrigerator-sink, made in a single unit, for which he is national distributor. The folder contains illustrations of the various models.

### New Envelope Stuffer of Dayton Pump & Mfg. Co.

The Dayton Pump & Mfg Co. of Dayton, O., has issued an envelope stuffer illustrating and describing its new direct drive water supply sytem mounted on 12 or 30-gallon galvanized tank with a capacity of 250 gallons per hour. This system is described as being compact in design, with driving mechanism enclosed, belts and pulleys eliminated, and with no external moving parts.

### W. A. Case & Son Mfg. Co.'s Envelope Stuffer

A new eight-page envelope stuffer, illustrating and describing in detail a two-fired vitreous china lavatory with plain fittings or with art design special chromium supply and waste fitting and with hexagonal chromium legs, has just been issued by the W. A. Case & Son Mfg. Co. of Buffalo, N. Y.

### Booklet on Pipe Welding

The Gas Products Association, 250 East Ontario street, Chicago, an association of independent manufacturers of gas welding and cutting equipment and supplies, has just issued a 44-page booklet on Pipe Welding. The booklet contains in condensed form, information on the important phases of the various types of welded steel and wrought iron piping systems for industrial uses. The subjects covered include, alignment, spacing, tacking tables for the lay-out of templates for cutting pipe intersections, branches, reducers and bull-plugs; the fabrication of headers, the use of tube-turns, long neck welding flanges and the construction of expansion loops and anchors. In addition to this, the booklet contains tables of cost data for the welding and cutting of all sizes of pipe from ⅜-in. to 30-in. diameter.

STEEL
PIPE
PITTSBURGH TUBE COMPANY
Standard and Copper Bearing Pipe « « Uniformly high in Quality and particularly adapted to the Plumbing and Heating Industry « « «
PITTSBURGH TUBE CO.
PITTSBURGH-PA.

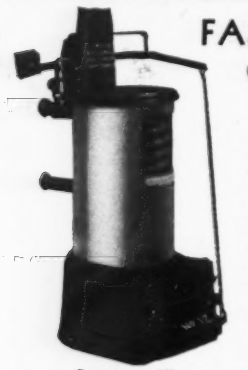
We are Prepared to give
Prompt Service
On Your Requirements for

**Iron Water Closet Hoppers Traps and Tanks**

*also*

All Types of Plumbers'
Cast Iron Specialties

**JONES HOLLOW WARE COMPANY**
Established 1888
BALTIMORE MARYLAND



FASTER HOT WATER
Copper Coil, Coal Burning
National Tank Heater

Copper coil provides faster heating. No corrosion or cracked castings. No rusty water—bronze fittings. Saving in fuel over other types of heaters. Abundant hot water 24 hours a day. Aqua-Matic regulator outfit maintains steady fire with little attention. Well built, efficient. Connects to present tank. Three sizes. Your customers will be thoroughly satisfied. Write for Bulletin 52-A.

NATIONAL PIPE BENDING CO.
Est. 1883
174-G River St., New Haven, Conn.
Boston New York Philadelphia

*Cut Away View*

Now! only $66 Cash, F. O. B. Factory For 210-gallon-per-hour size Complete with motor for 60-cycle or direct current

*Profit by this outstanding value in Home Water Systems*

AT $66, this complete 210-gallon-per-hour Fairbanks-Morse Home Water System is unmistakably the greatest value ever offered.

It is automatic with all working parts enclosed in a handsome lacquered casing. This tremendous value, made possible by Fairbanks-Morse quantity production and world-wide distribution, will mean extra profits for the dealers that handle them.

Write now for complete information before someone else in your territory gets the franchise. Address Dept. I-7.

FAIRBANKS, MORSE & CO., 900 S. Wabash Ave., Chicago

FAIRBANKS - MORSE Home Water Systems

**IMMEDIATE SALES AND PROFITS**

**are waiting for heating contractors who sell the Doherty-Brehm Humidifying Radiator. First effective, low-priced humidifier to give Moist Air (correct humidity) to every radiator heated home or building.**

• THE DOHERTY-BREHM •
**HUMIDIFYING RADIATOR**
*Sold by* CRANE

**Through responsible heating contractors. Write for full selling and installation information.**

**DOHERTY-BREHM CO., 333 N. Michigan Ave., Chicago**

# Business Changes

**Norwalk, Conn.**—Charles Magee has taken over the plumbing and heating business of the late Nelson M. White at 56 North Main street, South Norwalk.

**New York City**—Richard G. Hach, plumbing and heating contractor, has moved to 1357 Webster avenue, Borough of Bronx. He previously had operated his business from stores on 126th street and 140th street, New York City.

**Buffalo, N. Y.**—Elmer Kobel has acquired an interest in the Wilson Plumbing Shop on Wheels, Inc., with headquarters at 1503 Hertel avenue.

**Madison, Wis.**—A. B. Plaenert & Company, heating and ventilating concern, has moved from 721 Spruce street to 1102 South Park street, where it is occupying more modern quarters.

**Payette, Ida.**—The Hamilton Plumbing Shop has been purchased by Mr. Young and the name changed to the Young Plumbing Co.

**Winslow, Nebr.**—H. P. Weitkamp, who has been engaged in the plumbing and heating business since 1907, has sold his business to H. C. Douglas, of Onawa, Ia. Mr. Douglas will not take charge of the business until next fall.

**King City, Calif.**—The Star Sheet Metal Works is the name under which W. T. Mallingly, formerly connected with the Irving Kelly Plumbing Shop, has engaged in business for himself on Bassett street, in this city.

# New Business Ventures

**Seattle, Wash.**—The Westlake Plumbing & Heating Co. has been incorporated, with a capital stock of $50,000, by Simon A. Howe and John G. Barnes.

**Brooklyn, N. Y.**—Eddie's Plumbing Shop, Inc., has been chartered, with a capital of $10,000, to establish and operate a plumbing engineering and contracting business. The new firm is represented by L. L. Friedman.

**Bayonne, N. J.**—With a capital of $125,000, the Wal-Dorf Engineering Company has been organized and incorporated, to establish and operate a general plumbing, heating and ventilating engineering and contracting business. The new firm is represented by Patrick J. O'Connell, local attorney.

**Syracuse, N. Y.**—With a capital of $25,000, the Ormsby and Strauss Heating Corporation has been chartered, to establish and operate a general heating and ventilating engineering and contracting business. W. I. F. Francis, local attorney, represents the new firm.

**New York City.**—The Brighton Plumbing Company has been organized and incorporated, with a capital of $5,000, to establish and operate a plumbing engineering and contracting business in the borough of Richmond, Staten Island. The new concern is represented by M. H. Schneider, 291 Broadway.

**Wilmington, Del.**—The Sunbeam Heating and Ventilating Company has been organized and incorporated, with a capital of $100,000, to establish and operate a heating and ventilating engineering and contracting business. The new concern is represented by the Corporation Trust Company.

**Brooklyn, N. Y.**—The firm of M. Rimer, Inc., has been chartered, with a capital of $5,000, by Morris Rimer and associates, to establish and operate a plumbing engineer-

ing and contracting business at 2110 Eighty-second street.

**Bayonne, N. J.**—With a capital of $20,000, the Handman Plumbing and Heating Company has been organized and incorporated, to establish and operate a plumbing and heating engineering and contracting business. The new concern is represented by I. C. Picker, local attorney.

**Highland Park, N. J.**—The Singer Company, Inc., has been chartered, with a capital of $10,000, to establish and operate a plumbing engineering and contracting business. R. E. Watson, attorney, of New Brunswick, N. J., represents the new firm.

**Belleville, N. J.**—The Morgan Plumbing Company, Inc., has been organized and incorporated, with a capital of $25,000, to establish and operate a plumbing and heating engineering and contracting business. The new concern is represented by George R. Jackson, attorney, Newark, N. J.

**Brooklyn, N. Y.**—Carl Linder and associates have organized the firm of Carl Linder, Inc., with a capital of $20,000, to establish and operate a plumbing and heating engineering and contracting business. The new firm is represented by the Attorneys' Albany Service Company, 299 Broadway, New York City.

**Camden, N. J.**—With a capital of $100,000, the Cutler Plumbing Company has been organized and incorporated. It is planned to establish and operate a plumbing engineering and contracting business in this city. Harry M. Mendell, local attorney, represents the new firm.

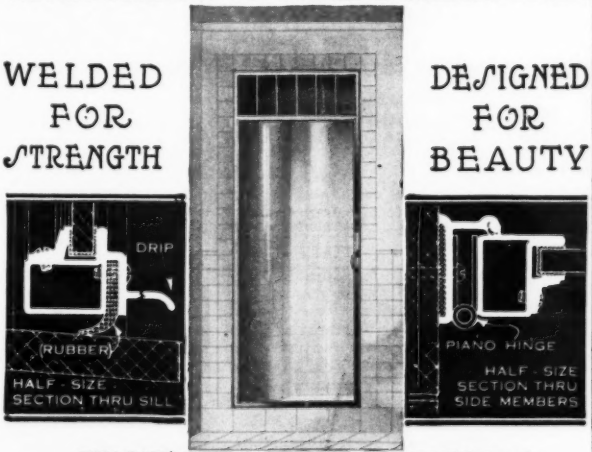
**New York City**—With a capital of $10,000, Charles Michel and associates have organized and incorporated the Charles Michel Plumbing and Heating Corporation, to establish and operate a plumbing and heating engineering and contracting business in the Bronx. The law firm of Macy and Spiegel, 41 East Forty-second street, represents the new company.

**Top row, left to right: C. W. Higgins, F. X. Farry, Robert Allmon and Stuart Greenberg. Bottom row: A. E. Somerton, Harry Hoopes, J. J. McLeod and F. M. Gabbert. Photos taken at recent golf tournament of the Plumbing and Heating Club of San Francisco, Calif.**

**New York City**—The Wolrus Plumbing Company has been organized and incorporated, with a capital of $10,000, to establish and operate a plumbing engineering and contracting business in the Bronx. The new concern is represented by M. Altschuler, attorney, 501 East 161st street.


ZOURI · STURDIWELD
A · NEW · SHOWER · STALL · DOOR
WITH STRENGTH CONCEALED IN NARROW LINES

WELDED FOR STRENGTH




DESIGNED FOR BEAUTY

SHOWER STALLS, SHIELDS, AND BATH ENCLOSURES
IN CHROMIUM, DUPLEX NICKEL PLATE, NICKEL SILVER AND SATIN BRONZE

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GENERAL OFFICES, CHICAGO HEIGHTS, ILLINOIS

INTERNATIONAL DISTRIBUTION
ASSOCIATED COMPANIES
MODERN BRONZE STORE FRONT COMPANY
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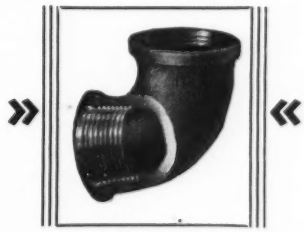
INTERNATIONAL STORE FRONT COMPANY



PIPE FITTINGS



Clean threadways—Tapping to gauge—Absence of sand holes—all go to distinguish—IMICO—Fittings.

A full line in malleable iron, cast iron and brass.

Also manufacturers of brass and iron valves.

ILLINOIS MALLEABLE IRON CO.
Chicago, Ill.
MANUFACTURERS OF BRASS AND IRON VALVES

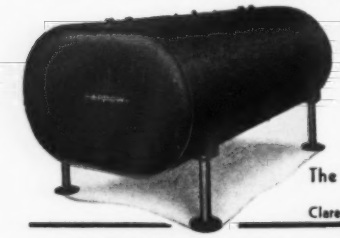
GET THE FACTS — THEN ACT

ARROW

KopaLoy Metal and Steel

Underwriters' Laboratories

OIL STORAGE TANKS



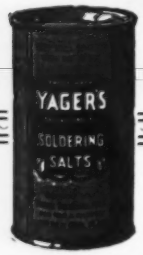
Regardless of what make of tanks you buy we suggest you first read our Guarantee covering

*Arrow KopaLoy Metal Tanks*

Ask for Bulletin 0-231.

The NOVELTY STEAM BOILER WORKS Company

Clare and Kloman Sts. Baltimore, Maryland




YAGER'S Soldering Salts

Why not do what hundreds of other Contractors are doing. Yager's is the standard with them because they have obtained far better results with it. Investigate it yourself! Try a can at our expense.

ALEX R. BENSON COMPANY, Inc.

Hudson, New York

For list of distributors see 1931 McRae Blue Book

*Sales Agents in Canada:*

Canadian General Electric Co., Ltd., Montreal and Toronto

IMPROVED "WILHELMI" COPPER BOILERS

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DONNELLY Outside Spring Relief Valve

DONNELLY PRODUCTS

*safeguard the home*

Dependable valves for

Pressure Relief

Temperature

Vacuum

*Write us for complete details.*

DONNELLY VALVE SALES CORP.

MALDEN, MASS.

# Pipe —— Lines

## Connected by LYT

**HIS OWN STENOGRAPHER**

*She knows the very latest style,*
*No dance she'll ever miss;*
*She talks of movies all the while—*
*HiR tipeiNg lokks lyk thiss*)*

*At writing shorthand she's a wow,*
*The fastest I've seen yet;*
*She speeds the typewriter, and how;*
*Hir spelling iz all wett[*

*Each day she talks to "Sweetie Joe"*
*For hours on the phone.*
*At last I had to let her go*
*& nou i Typ mie own@¾*

TYPING TIPS

**WHY TEACHERS GET MARRIED**

Question—What are glaciers?
Answer—Guys that fix windows.
Q.—What is a peninsula?
A.—A bird that lives on icebergs.
Q.—What is a volcano?
A.—A mountain with a hole in it. If you look down you can see the creator smoking.
Q.—Why does a dog hang out its tongue when running?
A.—To balance its tail.
Q.—What is steel wool?
A.—The fleece of a hydraulic ram.
Q.—What are Christian nations?
A.—Those that use cuss words.
Q.—What is etiquette?
A.—Saying "No thank you" when you mean "gimme."

HARDWARE AGE

*Note that the above is headed, "Why teachers get married"? All right. Now,—what is it that drives them back to teaching after they're married?*

**SOMEONE BEING KIDDED**

Diner (to waiter): What's the name of that selection the orchestra is playing?
Waiter: "Go Feather Your Nest."
Diner: Go jump in the lake. I asked you a civil question.

SATYR

Channel swimmers haven't a front page chance left. It's 'round-the-world, or nothing now.

**THIS IS OLD? BUT IT WILL BEAR REPETITION**

"Au revoir," said the Frenchman.
"What's that?" asked the American.
"That's 'Good-bye' in French."
"Well," said the American, "Carbolic acid."
"What's that?" asked the Frenchman.
"Good-bye in any language."

LEIGHTON'S GLOOM CHASER

In order to reduce, a young lady tried horseback riding. She began to fall off right away.

?.....?.....?

"Playing golf every day keeps me fit."
"Fit for what?"
"Playing more golf."

**FIGURE THIS ONE OUT**

A roadside note: "By order of the selectmen, cows grazing by the roadside or riding bicycles on the sidewalk is hereby forbidden."

No doubt the selectmen were just trying to rewrite the Mother Goose rhymes.

L Y T

# Bath a Day Movement

WITH the next publication of the list of educational material which national headquarters of the Red Cross distributes to its members, will be included "The Story of the Bath."

This is going to increase the demand for this interesting little booklet among health workers. Our reason for mentioning the fact is this: Out in a little Iowa City, a Red Cross nurse asked us to ship some copies of "The Story of the Bath." We did so. And it was then that this country nurse discovered that she was going to have difficulty in paying for them. She has asked that we allow the charge to stand over until next fall.

We think that the distribution of copies of the booklet by this country nurse will furnish valuable publicity to the plumbing fraternity of Iowa. In the distribution of the booklet to schools, local and state associations have financed the cost. Here is another case where we think the alert association would reap some mighty fine publicity.

Also during the summer months we recommend the use of "The Story of the Bath" and of the Twenty Minute Program we have prepared for meetings of Kiwanis, Rotary, Lions, and other civic clubs of the same kind. Write for details.

# Little Sentences That Sell

**Write one of these BLACK BOARD EPIGRAMS on your window or bulletin board each day. Many master plumbers and heating contractors find them real business getters.**

Don't judge the sheriff by the company he keeps.

* * *

A matchless cigar may be lighted in some other manner.

* * *

A man who sits down and reflects isn't necessarily brilliant.

* * *

When a butcher moves he pulls up steaks.

* * *

Horseless vehicles should be run with horse sense.

* * *

A bell hung well its tale will tell.

* * *

The healthiest feasts cost the least.

* * *

A position of trust and an aching tooth are hard to fill.

* * *

Too many cooks are apt to spoil the policeman on the beat.

* * *

Happiness is often the price of being commonplace.

* * *

Riches formerly had wings but now they have wheels.

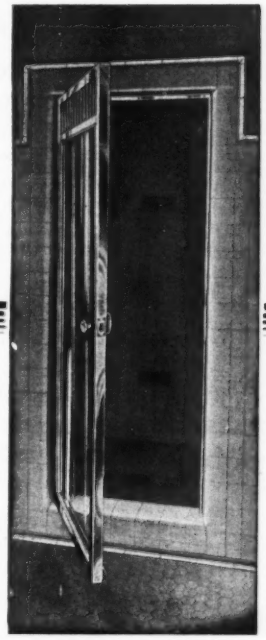
* * *

The fish dealer has no reason to consider Friday an unlucky day.

◆

**Oakland, Calif.**—The New Way Plumbing Co. is the name under which Leo Van Gelder, of 698 Santa Ray avenue, has engaged in business at 3905 Piedmont avenue.

**Winona, Miss.**—C. E. Urbank and William Ertl have engaged in the plumbing and heating business at 565 Sioux street, under the name of Winona Plumbing & Heating Co.

NONPAREIL MODEL
PATENTED

C & S
Shower Doors
*Make every Bathroom Complete*

No matter how expensive or modest the installation, there is a real need for *C & S* Shower Doors or Enclosures.

They are the *complete* touch. One look at the sturdy, neat frames and the gleaming, plate glass with which *C & S* Doors and Enclosures are equipped will convince you and your customer alike of the real value to be had.

Suggest *C & S* to the owner of every new building you see.

*Write us for details.*

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1903~1931
OVER A QUARTER CENTURY OF SERVICE
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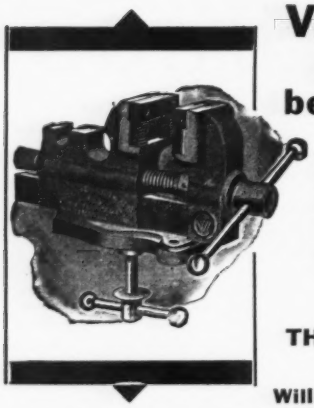

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**Combination bench pipe vise**

Once you see the workmanlike way and the ease with which the Vanderman Vise takes hold of your work you will wonder how you ever did without it. Here is the best bench helper you can get. Priced reasonably too.

Write for details.

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Steam Specialty Specialists Since 1841

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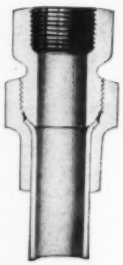
NIBCO Tank Trims and Copper Tube Fittings have been helping aggressive plumbers to make sales in spite of the so-called business depression. Write for complete information about this profitable line. Ask for Bulletin A-200.



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**Elkhart, Indiana**

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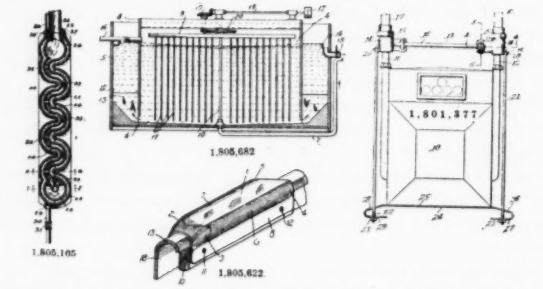
# PATENTS

## Plumbing Department

1,801,377. Meter Connection and Support. James T. Sutliff, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a Corporation of Illinois.



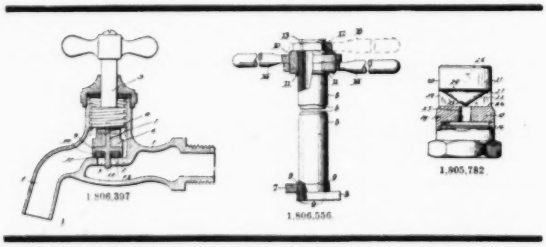

1,805,165. Hot Water Heater. Louis S. Denney, Mount Vernon, Ohio.

1,805,682. Sewage Treatment. Warren R. Borst, West New Brighton, N. Y.

1,805,622. Bathtub Seat and Hand Rest. Harley E. Goodwin, Hartford, Conn.

1,806,397. Compression Valve and Faucet. Elmer J. Hentschel and Samuel E. Miller, Springfield, Ohio.

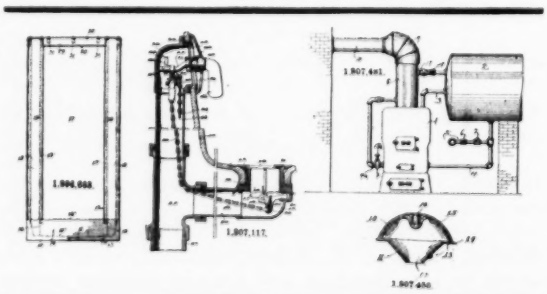
1,806,556. Hydrant Tool. Charles B. Green, Florence, N. J., assignor to Florence Pipe Foundry & Machine Company, Florence, N. J., a Corporation of New Jersey.




1,805,782. Spray Nozzle. Elmer G. Munz, Detroit, Mich.

1,806,668. Shower Bath Cabinet. William Bulthuis, Chicago, Ill.

1,807,117. Waste and Overflow Fitting. Tobias J. Kaufman, Chicago, Ill.



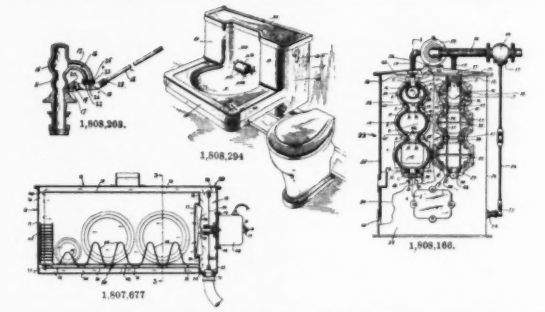
1,807,481. Hot Water Heating System. Albert E. Klein, New York, N. Y.

1,807,450. Tank Float Stopper. Frederick W. Starkey, Logan, Pa.

1,808,203. Valve Construction. Louis Borten, Philadelphia, Pa.

1,808,294. Sanitary Fixture. Raymond E. Crane, Kittanning, Pa.

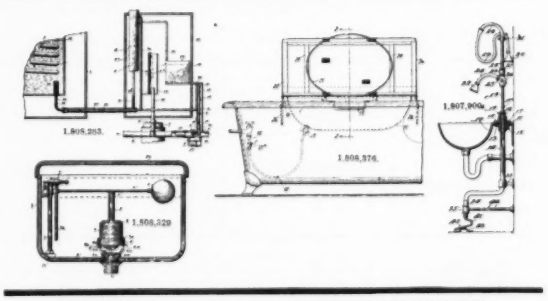
1,808,166. Water Heater. John Hickey, New Haven, Conn., assignor to The National Pipe Bending Company, New Haven, Conn., a Corporation.



1,807,677. Dishwashing Machine. Martin G. Torson, Long Beach, Calif.

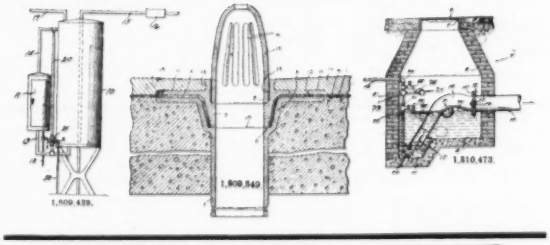
1,808,283. Thermostat. Matthew E. Benesh, Cicero, Ill.

1,808,376. Baby Bath Appliance. Milton Polacek and Egon Polacek, Cleveland, Ohio.



1,807,900. Fluid Flow Control Fixture. Glenn O. Dougherty, Los Angeles, Calif.

1,808,329. Flush Valve. Bert O. Tilden, Trenton, N. J., assignor to B. O. T. Mfg. Co., Trenton, N. J., a Corporation of New Jersey.



1,810,473. Flush Tank. Ernest L. Gaines, Seattle, Wash.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With all the remodelling work to be done at this season of the year you should be prepared for any job.

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THEO. DeWITT, *Vice President and General Manager*

**CLEVELAND**

*announces* **Revised Rates**

*Following the trend of the times, Cleveland's leading hotel announces the following changes in room rates — effective immediately*

ALL FORMER

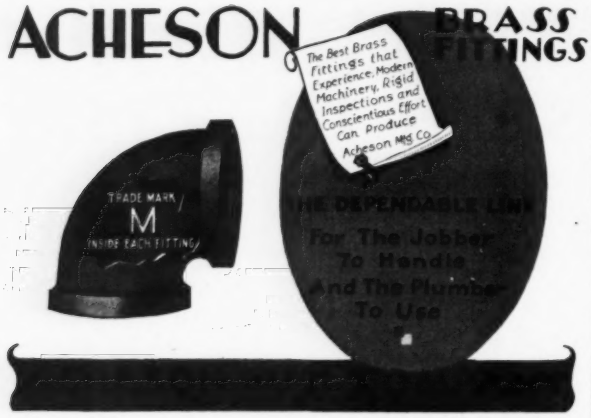
**$3.50** ROOMS *NOW* **$3.00**

**$4.00** ROOMS *NOW* **$3.50**

**$4.50** ROOMS *NOW* **$4.00**

*4-station selective Radio now being installed in every Hotel Hollenden room*

ACHESON BRASS FITTINGS


The Best Brass Fittings that Experience, Modern Machinery, Rigid Inspections and Conscientious Effort Can Produce
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THE DEPENDABLE LINE
For The Jobber To Handle
And The Plumber To Use

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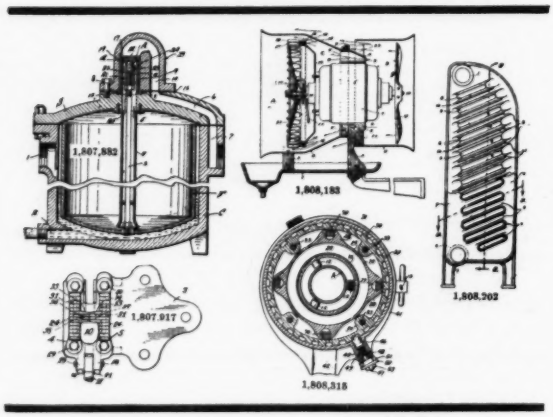
1,809,439. Safety Valve for Heaters. Earl R. Clark, Highland Park, Mich.

1,809,549. Drain Hopper. Erskine Duncan and John R. W. Ambrose, Toronto, Ontario, Canada.

## Heating Department

1,807,882. Steam Trap. David A. Smelser, Bristol, Va.

1,807,917. Chain Pipe Vise. Louis W. Jones, New York, N. Y., assignor to Hollands Manufacturing Company, Erie, Pa., a Corporation of Pennsylvania.



1,808,183. Humidifier. Eugene A. Spaulding, Portland, Me.

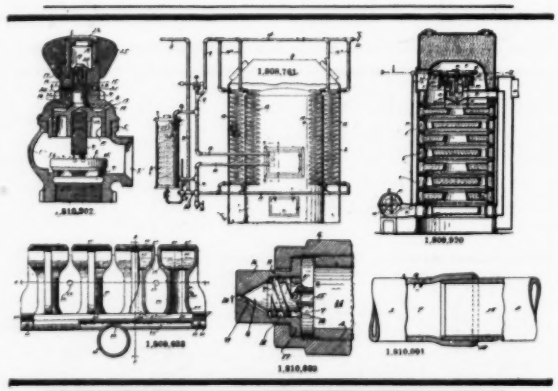
1,808,202. Radiator. Everett D. Betts, Milan, Mich.

1,808,315. Diestock. Ira W. Nonneman, Warren, Ohio, assignor to The Borden Company, Warren, Ohio, a Corporation of Ohio.

1,810,202. Packless Valve. Joseph H. Cheetham, Detroit, Mich.

1,808,761. Heating System. Charles F. Brand, Wheeling, W. Va.

1,809,920. Oil Burner Boiler. Daniel C. Woodward, Lowell, Mass.



1,809,658. Gas Burner. Carl A. Wendt, Tulsa, Okla.

1,810,689. Oil Burner. Knowlson Townsend, San Francisco, and Robert Hill, Oakland, Calif.

1,810,091. Joint for Iron and Steel Pipes and Tubes. Jacob C. Siegle, Youngstown, Ohio, assignor to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a Corporation of Ohio.

# CLASSIFIED ADVERTISING

**8 cents for each word including heading and address. Count seven words for keyed address. Minimum $2.00 for each insertion.**

**One inch $4.00. Cash must accompany order. Copy should reach us eight days in advance of publication date.**

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REPRESENTATIVES WANTED IN leading cities to handle highest grade line of radiator shields and radiator cabinets. Our representatives earn $500.00 to $1,000.00 per month the year around, above expenses. Full selling plan furnished. Address Key 256, "Domestic Engineering," 1900 Prairie Ave., Chicago.

**WANTED: PLUMBERS TO SELL AND install the Gas-Gard electric control for gas water heaters. Simple attachment that lights or shuts off gas on side arm heaters when button is pressed in bath room, or kitchen. Thermostatic protection if heater is forgotten. List $40.00—Profit 55%. Write for details. GAS-GARD CO., INC., 375 East Main St., Rochester, N. Y.**

WONDERFUL MONEY-MAKING EXclusive or side-line proposition for salesmen calling on plumbing dealers. Write us today. Address Koil-Les Heater Company, Geneva, Illinois.

REPRESENTATIVE WANTED TO call on plumbing supply trade in Montana, North and South Dakota, Colorado, Mississippi, Alabama, Tennessee, Utah and Georgia, to represent a well known toilet seat line. Commission basis only. Address Key 639, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

## Lines to Handle

WE DESIRE REPRESENTATION IN the Southeastern and Southwestern States, selling to the wholesalers only, complete line of Brass Pipe Fittings and other kindred items such as Ferrules, Soldering Nipples, etc. Address Phoenix Brass Fittings Corp., Irvington, New Jersey.

WANTED—MANUFACTURERS' agent to sell jobber only established line of Concealed Bath and Shower fixtures, Patented Features, Attractive appearance and right price. Address Key 647, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

WANTED—REPRESENTATIVES FOR a line of plumbers' brass goods in the following territories: Iowa, Nebraska, Colorado and Dakotas, to work on a commission basis. Give references in your first letter. Address Key 621, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

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WANTED—MANUFACTURERS' agent selling plumbing contractors in Pennsylvania outside of Philadelphia; also New York State outside of New York City. In writing give outline of your territory and line now carried. Address Key 620, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

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CANADIAN MANUFACTURERS' agent is desirous of securing exclusive representation in Canada for line of Heating products manufactured in United States. Address Key 649, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

## For Sale

FOR SALE—PLUMBING SHOP AND Equipment, located in a town in Eastern Nebraska, population thirty-seven hundred. Price reasonable, terms if desired. Address Key 648, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

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**are like a VISIBLE OPEN CATALOG spread wide open on the stock bins to teach the stock boys and apprentices to know their goods.**

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OVERHEAD EXPENSE AND PERCENTAGE METHODS. By Henry F. Baillet. A practical book on the cost of doing business, explaining how to find it and what to do with it when found in order to make sure that each business transaction yields a profit. It is written in plumber's English and is very easy to understand. Contents: Overhead Expense, Percentage Methods, Questions and Answers on Overhead Expense and Related Subjects, Proportioning Overhead Expense, Comparative Statements of ten different firms, Comparison of Statements of one firm for several years, Value of Annual Synopsis of Business. 128 pages 4½x7, bound in cloth. Price postpaid $1.50.

DEAN'S SYSTEM OF GREENHOUSE HEATING. By Mark Dean. Explains in detail Mr. Dean's system of heating greenhouses with steam or hot water. Glass surface, sizes of flow and return pipes, radiating surface of pipes, etc., are all taken into consideration. This book will be a great help to anyone who plans or installs greenhouse heating systems. Many tables are given. 46 pages, 5¼x7¾, cloth cover. Price postpaid $2.00.

PLUMBING QUESTIONS AND ANSWERS. By Joseph E. Taggart. Presents in question and answer form the fundamentals upon which the entire plumbing installation of New York City rests. Other sections cover tests for anti-siphon traps, installation of water supply and the standpipe-fireline rules. There's also an appendix of useful tables and measures. Has 164 pages, 5x7, bound in fabrikoid. Price postpaid $2.00.

**Domestic Engineering**
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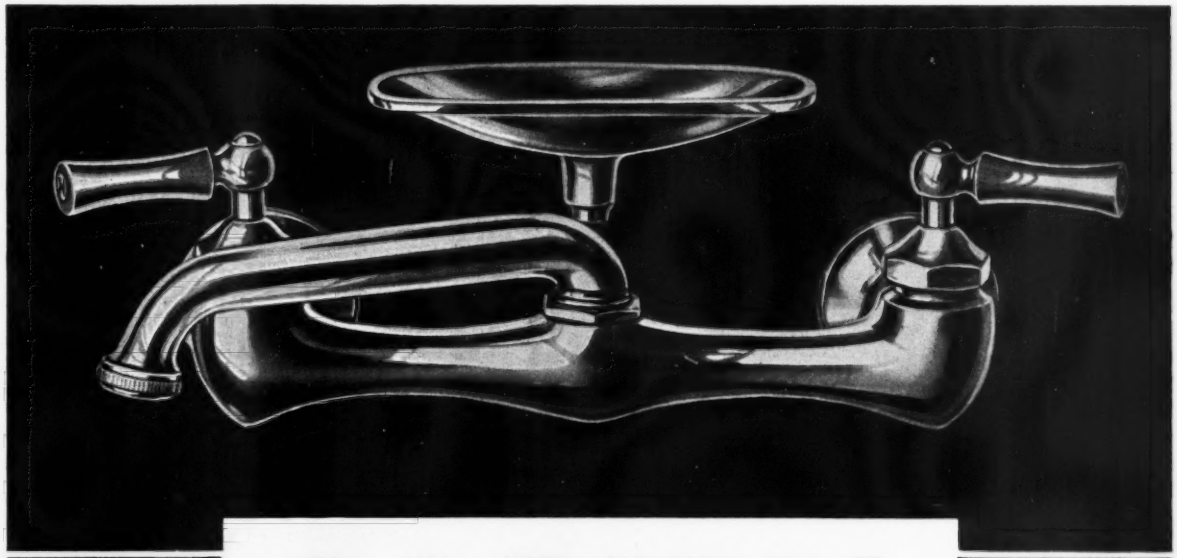

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Chrome-plated throughout, the soap dish and handles are also of metal. Or, at your option, china soap dish and china handles can be furnished.

Eight-inch centers with either female eccentric or male adjustable couplings. Especially suited to the new, low-backed sinks.

Made in plants where precision workmanship is the only kind tolerated, this fixture is as finely made as the most modern industrial methods enable. It is an aristocrat in its field.

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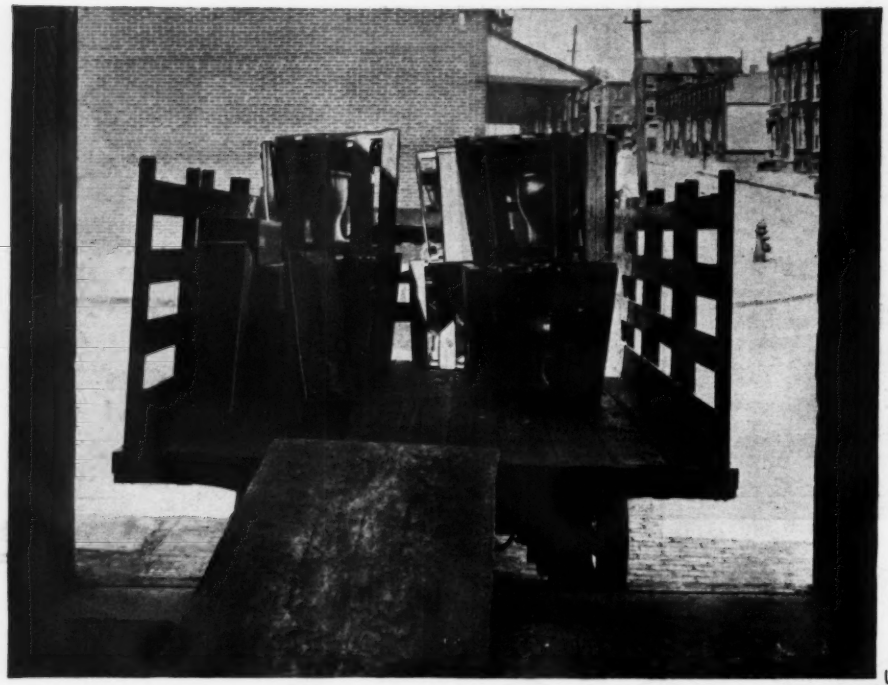

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Our direct-mail advertising and pages in American School Board Journal continually remind them of Vogel Closets, and the Endurance Test, still in operation, has proved how Vogels will stand the gaff. The Number Ten on the test has now flushed 323,560 times, and not even a washer has been renewed.

This school business is the most profitable you can get, and it will be even more profitable in satisfied customers if you install Vogel Number Ten and Ten-A Seat-action Closets.

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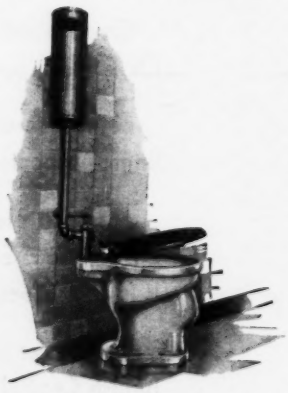

*Vogel Number Ten Closet Combination with exposed tank*

See inside front page for VOGEL Frost-Proof advertisement.

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